



This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

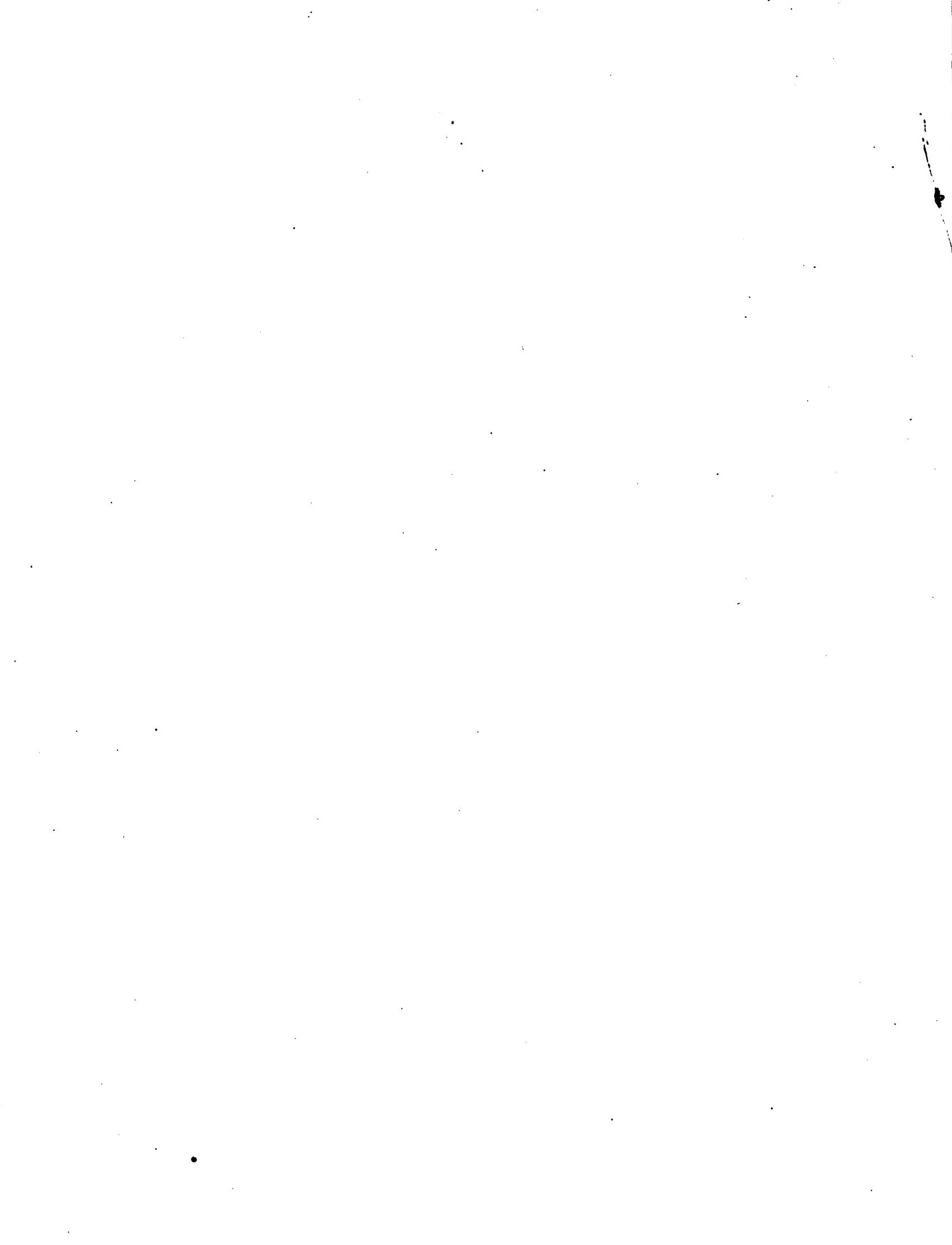
- + *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.
- + *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.
- + *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.
- + *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at <http://books.google.com/>





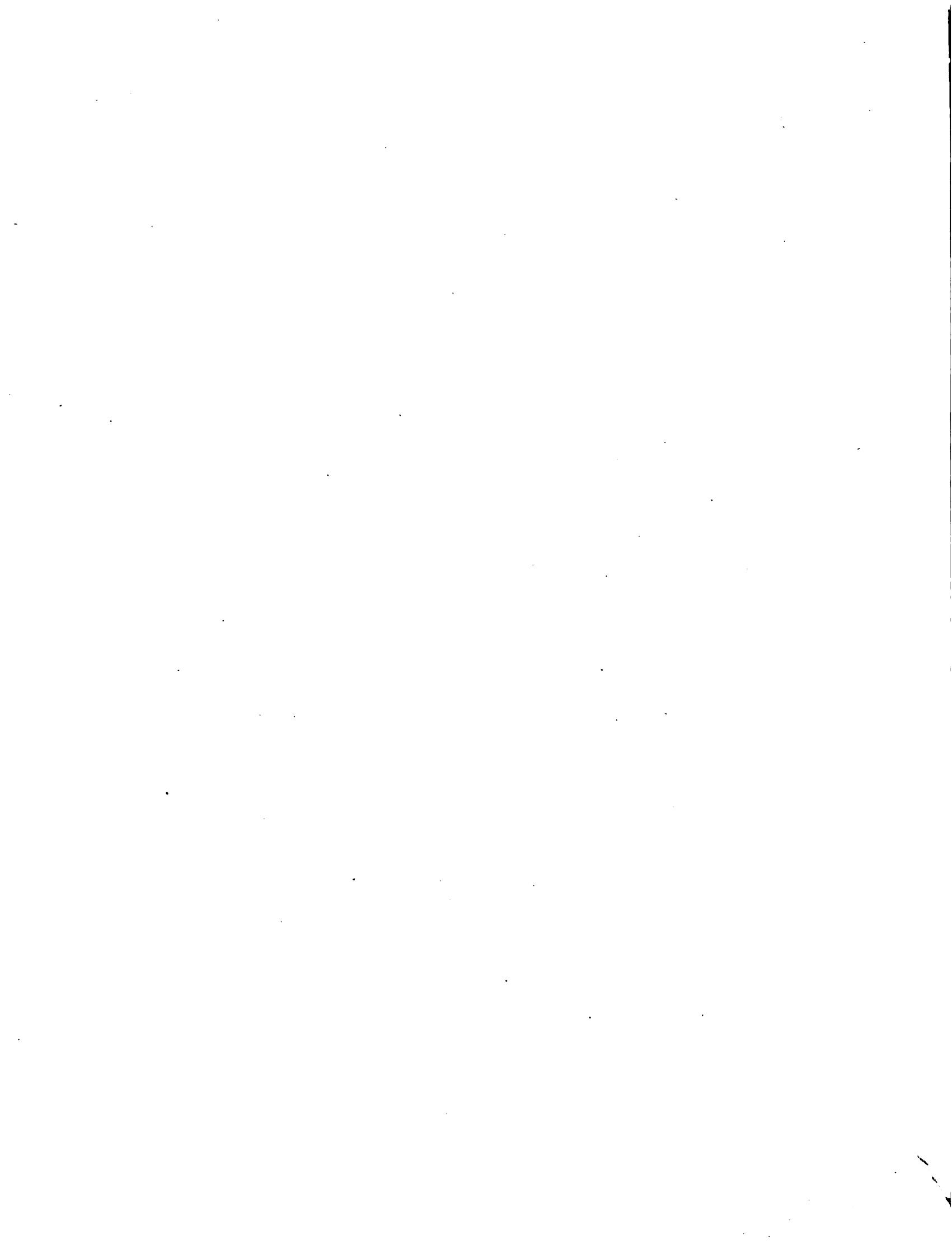


TII ++

VV -







THE ILLUSTRATED

Naval

AND

Military

MAGAZINE.

A Monthly Journal devoted to all subjects connected with Her Majesty's
Land and Sea Forces.

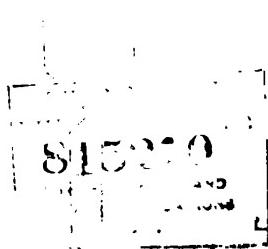


VOLUME VIII.

PRINTED AND PUBLISHED FOR THE PROPRIETORS BY W. H. ALLEN & CO..
13 WATERLOO PLACE, S.W.

1888.

ЖЮВ ВІД
ОЛІСІУ
УРАЛІУ



LONDON:

W. H. ALLEN & CO., 18 WATERLOO PLACE,
PALL MALL, S.W.

By transfer

ЖЮВ ВІД OCT 25 1915

ОЛІСІУ
УРАЛІУ

INDEX TO CONTENTS OF VOLUME VIII.

FROM JANUARY TO JUNE 1888.

	PAGE		PAGE
A			
Alderney. By Major-General "X"	241		
At the Play	71, 144, 215, 287, 359, 481		
Austrian Method of Gun Haulage in Snow	104		
B			
Biography, Military :—			
Major-General W. Knox Leet, V.C.	145		
Major-General A. Lyttleton-Annesley	289		
Biography, Naval :—			
Admiral Hon. Sir H. Keppel, G.C.B.	361		
British Army, Battles of the, inscribed on the Regimental Colours.			
No. 5.—Dettingen. By R. O'Byrne, F.R.G.S.	251		
D			
Dogs in War. By the Editor	169		
E			
Editorial :—			
The Decadence of the Militia	187		
The German Landwehr	187		
Emperor William, Military Career of. By Sir Randall Roberts, Bart.	217		
Europe in Arms. No. X.—The Spanish Army By C. J. L'Estrange	257		
Extracts from my Journal while commanding H.M.S. Argus on the Coast of Sicily in 1860. By Admiral H. F. Winnington-Ingram	5, 73		
F			
French Railway Corps. By the Editor	89		
G			
Gibraltar, A Drive through. By A. M. Horwood	284		
Grenadiers of the British Army. By Capt. R. Holden, A.D.C.	310		
H			
Haversack, The	189, 211, 288, 354, 426		
Hospital, New Portable	423		
Hygiene & New Right on Soldiers'	60		
I			
Indian Life. By Major-General De Berry.			
The Cantonment Magistrate	120		
The Civil Service	391		
Indian Military Stations. By J. C. Dickinson :—			
Lucknow	94, 187		
Dinapore and the Siege of Arrah	245		
Inventions applicable to the Requirements of Her Majesty's Naval and Military Forces :—			
Dr. G. De Laval's New Boat	352		
The Eureka Ice Machine	281		
Improved Ejector Hammerless Rifle	209		
American Woven Cartridge Belt	134		
Ancient and Modern Tents	62		
The Haversack	66		
K			
Krnka Magazine Rifle			
	275		
L			
Letters from a French Dragoon to an English Journalist (<i>concluded</i>). Edited by Albert D. Vandam			
	17		
M			
Maneuvres, Dover Easter, 1888. By Our Own Correspondent	341		
McEvoy Primer and Firing Mechanism	207		
Medals, Naval and Military	49		
Memorial to the Soudan War Correspondents	417		
Military Bridges. By F. J. Stopford	162		
N			
Naval and Military Notes and Queries. By R. O'Byrne, F.R.G.S. 16, 61, 67, 81, 103, 105, 140, 256, 271, 279, 301, 318, 327, 344, 353, 396, 401, 425			
Nordenfelt Submarine Boats	40		
O			
Order of the Indian Empire			
	1		
Out of the Beaten Track. By Major-General Mitford	82, 385		

PAGE		PAGE	
P		S	
Portable Railways for Field Purposes. By Carl von Ausland	124, 197	Sanitary Train, French	272
Problems, Military	809, 894	Sark, Reminiscences of	155
Projectile, New American	183	Sikkim Expedition. By Captain H. O. Wylly	418
Projectile, New Armour-Piercing	206	Steel applied to Modern War	23
Punjab, Conquest of	106, 148, 226, 345	Sultan of Zanzibar, The Late. By Captain Berkeley, R.N.	307
		Summary of Articles in Foreign Service Magazines	358, 430
		Suvóroff. By Lieut.-Colonel Spalding	328, 364
R		T	
Rambler Papers	809, 895	Torpedo Gunboat. By Captain Berkeley, R.N.	177
Rapid Field Sketching and Reconnaissance. By Capt. Verner, R.B.	291, 402	Torpedo Light Gear	280
Reviews	69, 141, 284, 356, 428	Training, Military. By Captain Manera	119
Rio Harbour, Three Years in. By Admiral H. F. Winnington-Ingram	178, 221	Transcaspian Railway. By C. J. L'Estrange	31
Russian Raft	57		
Russian Rifle Practice	58		
Russian Mountain Artillery Matériel	201		
		W	
		War Artist, Wanderings of	319, 377
		Waterloo, Story of. By Lady de Lancy	414



THE
ILLUSTRATED
Naval and Military Magazine.

No. 48.

JANUARY 2ND, 1888.

VOL. VIII.

THE MOST EMINENT ORDER OF THE INDIAN EMPIRE;
THE DISTINGUISHED SERVICE ORDER;
THE ORDER OF THE CROWN OF INDIA, ETC.

BY MAJOR J. H. LAWRENCE-ARCHER.



HE vast expansion of the British Empire, during the present auspicious reign, has demanded a corresponding increase, in various new forms, suitable to each special occasion, of those honorary marks of royal favour, which are symbolized in chivalric decorations.

Accordingly, the Victorian period of our "Island Story," has been illustrated by the institution of five new "Orders," besides which, the "Victoria Cross," although not strictly an order, recognizes personal "valour" in the field, and is doubly prized, because open to all the naval and military grades, under that in which other qualifications are required. In addition to these, and instituted at an earlier period, are two Orders of Merit restricted to natives of India. At the head of these five Orders, is that of the Star of India, already described (*Illustrated Naval and Military Magazine*, October 1887).

I.

Of the lesser Orders, the first is that of the Indian Empire, instituted 1st January 1878, by Her Gracious Majesty, to commemorate her assumption of the style and title of Empress of India, and as a reward for services rendered to the State in that great *appanage*.

This Order originally comprised only one class, or "Companions," who ranked after the corresponding class, in the Order of St. Michael and St. George, under the "Sovereign" and the Viceroy of India (*ex-officio*,

Grand Master); and its officers were, and still are, a registrar and a secretary.

In the present Jubilee year, however, the Order has been enlarged, and by letters patent, under the Great Seal, dated 1st June 1887, alterations were made in its constitution, and, at the same time, the letters patent of the 2nd August 1886, which added a second class, have been partially abrogated. In consequence, the Order is now styled "The Most Eminent," and it is ordained that Her Majesty's heirs and successors shall be Sovereigns of the Order—that the Viceroy, for the time being shall be Grand Master, and also first and principal Knight Grand Commander—that the members shall be divided into three classes, namely, 25 Knights Grand Commanders; 50 Knights Commanders; and a third class, to consist of so many Companions as may be appointed; and, lastly, that Her Majesty, her heirs and successors, at their pleasure, may appoint any Prince of the Blood Royal, being descended from King George I., an extra Knight Grand Commander.

It was further ordained, that the Members of the Order should take precedence next to and after those of St. Michael and St. George, grade by grade; that the Order should be governed by statutes and ordinances; that it should be competent to Her Majesty to confer, through the representatives of Eastern potentates, the decoration of Knight Grand Commander on such persons as, by services, official or other, to the Empire in India, might merit the Royal favour.

Accordingly, in celebration of her Jubilee year's completion, the Sovereign made the following appointments of Knights Grand Commanders :—

General Sir F. B. Roberts, Bart., G.C.B., K.C.I.E., V.C.; Field-Marshal H.R.H. the Prince of Wales, K.G., &c.; Vice-Admiral H.R.H. the Duke of Edinburgh, K.G., &c.; Major-General H.R.H. the Duke of Connaught, K.G., &c.; Field-Marshal H.R.H. the Duke of Cambridge, K.G., &c.

The Secretary of the Order is the Foreign Secretary to the Government of India; and the Registrar, Sir A. W. Woods, Knight, Garter Principal King of Arms.

The original badge of the Order is represented in the accompanying plate. An heraldic rose, enamelled *gules*, and barbed *vert*. In the centre, on a golden field, the Imperial bust, in profile, proper, within a purple fillet, inscribed in gold, "Victoria Imperatrix." The letters of the word "INDIA," in gold, are distributed on the petals of the rose, which latter is surmounted by the Imperial crown. The ribbon is purple.

The Royal, naval, and military members of the Order are as follow :—

G.C.I.E.—H.R.H. the Prince of Wales, H.R.H. the Duke of Edinburgh, H.R.H. the Duke of Connaught and Strathearn, H.R.H. the Duke of Cambridge, V.C., K.G., Sir F. S. Roberts, Bart.

K.C.I.E.—Major-General Sir A. Cunningham, C.S.I., retired, Royal Engineers; Surgeon-General B. Simpson, M.D., Bengal Medical Establishment; Hon. Col. Sir B. Leslie, Indian Volunteers.

C.I.E.—There are at present, sixty-four Companions of the Order, amongst whom are many officers of the highest distinction: General Sir F. P. Haines; General Sir A. G. Clarke; General Sir E. B. Johnson; General Sir H. W. Norman; General Sir D. M. Stewart, &c.

II.

The "Distinguished Service Order," was instituted by the Queen-Empress at "our Court of Balmoral" in the fiftieth year of Her reign, on the 6th September 1886, in terms to the following effect :—

"Victoria R. and I.," having taken into consideration that the means of adequately rewarding the distinguished services of officers in the naval and military services, who have been honourably mentioned in despatches, are limited—now, for the purpose of attaining an end so desirable as that of rewarding individual instances of meritorious or distinguished service in war—"We have instituted and created by these presents, for us, our heirs and successors, and do institute a new naval and military order of distinction, to be designated and hereafter described." (1.) The Order is named "The Distinguished Service Order." (2.) It is ordained

to consist of the Sovereign, and of such Members or Companions, as "We, our heirs or successors, shall appoint." (3.) "We, our heirs and successors, Kings and Queens regnant of the United Kingdom of Great Britain and Ireland, Emperors and Empresses of India, are, and for ever shall be, Sovereigns of the Order." (4.) No person to be eligible for this distinction "who doth not hold at the time of his nomination, a commission in our naval, land forces, or marines, or our Indian, or Colonial naval and military forces, or a commission in one of the departments of our Navy or Army, the holder of which is entitled to Honorary or relative Navy or Army rank. Nor shall any person be nominated unless his services shall have been marked by the special mention of his name by the admiral or senior naval officer commanding a squadron or detached naval force, or by the commander-in-chief of the forces in the field, in despatches, for meritorious or distinguished service in the field or before the enemy." (5.) Foreign officers associated in naval and military operations, eligible to be Honorary Members. (6.) Appointments to be according to our pleasure, by warrant under the Sign Manual, countersigned by our Principal Secretary of State. (7.) Refers to the decoration. (8, 9.) Provides for a Secretary and Registrar. (10.) Defines the rank of the Order, as next to and after that of the "Indian Empire." (11.) Describes the badge—as follows :—A gold cross enameled white, and edged gold, having on one side, in the centre, within a wreath of laurels enameled green, the imperial crown in gold upon a red ground; and on the reverse, within a similar wreath, and on a similar ground, the Imperial and Royal cipher, V.R.I., suspended from left breast by a red riband, edged blue, one inch wide. (12.) Provides for publication of appointments in the *London Gazette*; and, finally, declares that "We, our heirs, and successors," shall have the power of "annulling, altering, abrogating, augmenting and interpreting these regulations, or any part of them, by a notification, under the Sign Manual, countersigned by the Secretary of State."

The Order, having no retrospective effect, excludes officers in receipt of "Distinguished Service" pensions. It was first conferred on those who had distinguished themselves during the campaign in Burma, and in the Soudan, and is the first that, breaking through old traditions and narrow prejudices, stimulates ambition in the junior commissioned grades of the services.

The only officer of the Order is the Secretary and Registrar, P. B. Burgess, Esq.

There are, at present, forty-five members of the Order :—

Lithgow, D., Surg.-General S. A., C.B., M.D.
St. Leger, Colonel H. H., Cameron Highlanders.
Coker, Colonel E. R., h.p.
Murray, Lieut.-Colonel K. D., Royal Irish Fusiliers.

Tweedie, Lieut.-Colonel J. L., Royal West Kent Regiment.
 Bennett, Lieut.-Colonel W., York Regiment.
 Skinner, Assistant Commander-General J. T., Commissariat and Transport Staff.
 Everett, Lieut.-Colonel E., Cameron Highlanders.
 Scott, Brevet Lieut.-Colonel D. A., Royal Engineers.
 Barrow, Brevet Lieut.-Colonel C. T., Scots Rifles.
 Crofton, Brevet Lieut.-Colonel M. S. S., Staff Corps.
 Temple, Lieut.-Colonel C. P. R., Berks Regiment.
 Hopper, Major A. J., Royal Engineers.
 Money, Major G. L. C., Cameron Highlanders.
 Quirk, Major J. O., Welsh Regiment.
 Hunter, Brevet-Major A., Royal Lancashire Regiment.
 Lloyd, Major G. E., South York Regiment.
 Marriott, Brevet-Major R. A., Royal Marine Artillery.
 Channer, Major B., Bengal Staff Corps.
 Aldworth, Captain W., Bedfordshire Regiment.
 Donvard, Major A. R. F., Royal Engineers.
 Wall, Captain E. C., Royal Artillery.
 Smyth, Captain O. S., Royal Artillery.
 Smith-Dorrien, Captain H. L., Derbyshire Regiment.
 Haggard, Captain A. E. R., King's Own Borderers.
 Gather, Captain T. P., Royal Engineers.
 Dundas, Captain L. C., Liverpool Regiment.
 Rhodes, Captain E. R., Berkshire Regiment.
 Ferrier, Captain J. A., Royal Engineers.
 Milne, Captain R. L., Liverpool Regiment.
 Payne, Captain J. E., Somersetshire Light Infantry.
 Preston, Captain J. E., Madras Staff Corps.
 Daubeney, Captain E. K. S., Staff Corps.
 Borrow, Captain F. R., North Lancashire Regiment.
 Romilly, Captain F. W., Scots Guards.
 Downes, Lieutenant W. K., Beng. Staff Corps.
 Maxwell, Lieutenant J. G., Royal Highlanders.
 De Lisle, Lieutenant H. de B., Durham Light Infantry.
 Annesley, Lieutenant W. R. N., Royal West Kent Regiment.
 Page, Captain C. W. H., Canadian Militia.
 Mackinnon, Surg.-Major H. W. A., M.C.S.
 Lambert, Hon. Lieut.-Colonel W. M., retired, Royal Marine Artillery.
 Rogers, Surg.-Major J. G., Medical Staff.
 Rundle, Brevet-Major H. M. L., Royal Artillery.
 Kempster, Captain F. J., Leinster Regiment.

III.

The next of these Orders is that of the "Crown of India," which was instituted by "Victoria, Queen of Great Britain and Ireland, Empress of India," to commemorate the assumption of the Imperial title, January 1st, 1878.

The ^{1^h} class is Grand Mistress. It has only one class
 "Princesses of the Royal House,
 male relatives of Indian Princes

and others." This is repeated in two other passages in the patent, one of which runs: "It shall be competent for the Sovereign of this Order to confer the decoration thereof upon the wives or other female relatives of any of the persons who have held, now hold, or may hereafter hold, the High Offices of Viceroy and Governor-General of India, Governor of Madras or Bombay, or of Principal Secretary of State for India."

Ladies of high rank in their own right, and ladies who play a "prominent part in ceremonial life, in such a way that the special grace with which they play it, comes to be noticed, and ladies who show fine qualities in any great crisis" (like the Indian Mutiny, for example), "and are of adequate social rank to receive a decoration, would also be proper recipients of the Order."

The Badge consists of the Royal and Imperial cipher, in diamonds, pearls, and turquoises, within an oval garlanded border of pearls, surmounted by the Imperial Crown, jewelled and enameled proper. The badge is attached to a light-blue white-edged watered silk ribbon, worn in the form of a bow.

Amongst the distinguished ladies of this Order may be mentioned the following:—

The Royal Princesses.

H.H. The Nawab Shahjahan, Begum of Bhopal, G.C.S.I.

H.H. Maharanee Seta Velass Dawajee Ammanee Anaro of Mysore.

H.H. Maharanee Jumna Bai Saheb Gaekwar of Baroda.

H.H. Dilawar un Nissar Begum Saheb of Hyderabad.

H.H. Vijaya Mohenu Mukta Boyi Ammanee Rajah Saheb of Tanjore.

Maharanee Hai Shornomoyee of Cossimbazar.

Marchioness of Salisbury.

Countess of Mayo.

Lady Susan Georgiana Bourke.

Countess of Lytton.

Baroness Lawrence.

Countess of Iddesleigh.

Baroness Napier of Magdala.

H.H. Lakshmi Bhayie, Senior, Rani of Travancore.

Maharani of Dholpur.

Countess of Dufferin.

Fanny Georgiana Jane Lady Reay.

IV.

The fourth, is the "Royal (Family) Order of Victoria and Albert," instituted by Her Gracious Majesty, 10th February 1862. Like the preceding, it is restricted to ladies, and consists of three classes. It was enlarged, 10th October, 1864, and again on 15th November, 1865. The Sovereign is Grand Mistress, and it has a Registrar—Albert W. Woods, "Garter."

The Badge (1st, 2nd, and 3rd Classes) bears the heads of the Queen and the late Prince Consort, in profile,

within an oval border (diamonds, &c.) with seven square projections (1st Class), and is surmounted by the Imperial Crown. The ribbon is white watered silk. The 2nd and 3rd Class badges are smaller and slightly varied, while the badge of the 4th Class is composed simply of the double monogram.

Amongst the recipients of the Order are the Princesses of the Royal Family, and many ladies of the highest distinction.

ORDERS OF BRITISH INDIA.

V. and VI.

The exclusively native Orders of British India are two, "The Military Order and Order of Merit," and the "Order of Merit."

I. The former, styled "The Military Order and Order of Merit of British India," was instituted in 1837, for the purpose of rewarding meritorious services in the Native Army of India. It is conferred on native Commissioned Officers, and on those of European, or mixed parentage, holding similar positions,* "for long, faithful, and honourable service." It is of two classes. The 1st Class comprises eighty-eight members, exclusive of the Soubadhar and corresponding grades, and carries with it the title of "Sirdar Bahadur." The 2nd Class is of the same number, and carries with it the title of "Bahadur."

The badge is as follows: "Surmounted by the Imperial Crown, a star of eight clusters of rays, inscribed on a fillet, within a wreath, "The Order of British India"; pendent from a Crimson ribbon, round the

* Not rank.

neck and outside the collar. In the centre, is a lion *passant guardant*.

II. The latter Order was also instituted in 1837, and is a reward for personal bravery irrespective of rank. It consists of three classes. The badge of the 1st Class is of gold; of the 2nd Class, of silver, with a gold wreath; and of the 3rd Class, silver only; and is worn on the left breast, attached to a dark blue ribbon with red edges.

The form of the badge is an eight-pointed star, with crossed swords in the centre, encircled by a wreath, inscribed, "Reward of Valour."

It is conferred on soldiers of "native or mixed parentage, for gallantry in the field, or in the attack and defence of fortifications."

It may here be observed that, although Orders restricted to particular nationalities in an Empire seem to be unobjectionable, inasmuch as they are meant to distinguish local position and influence, on the other hand, Orders professedly of *Merit*, in the *same* empire, seem to be defective, when they recognise colour or race distinctions.

Lastly, the question of instituting more "Orders," has, for a long time, been mooted by some of the representatives of Science, Art, and Literature, and even by some of our colonists, but the general public seems to be satisfied that the British Empire has already a sufficiency; while recent scandals respecting the Legion of Honour, scarcely suggest the desirability of throwing open chivalrous institutions to the *profanum vulgus*. At the same time, it has frequently been remarked that, occasionally, an inscrutable mystery surrounds the selection for, or the denial of, decorations.



EXTRACTS FROM MY JOURNAL WHILE COMMANDING H.M.S. "ARGUS" ON THE COAST OF SICILY, IN 1860.

By ADMIRAL H. F. WINNINGTON-INGRAM.



N 1859, the arch-conspirator and revolutionist, Joseph Mazzini, despatched one of his emissaries—a certain Niccolò Fabrizio—to organize a secret commission in the island of Sicily, and prepare its inhabitants for a movement, the object of which was

their separation from the kingdom of Naples—a country, at that time ruled over by a young Bourbon Prince, who had lately succeeded his father, Ferdinand, better known to his subjects by the title of "Bomba," on account of an unpleasant method he had of replying to their demands for constitutional Government—through the cannon's mouth. As the, at the time, occupant of the throne seemed disposed to follow his royal parent's ways in this respect, the mantle of the late king fell upon his shoulders, and he was dubbed "Bomba the Second" by his suffering people. Government spies were to be found mixing with all classes, and denouncing those whom they heard speaking irreverently of the measures taken to coerce them into good behaviour while enduring all the evils of a grinding despotism.

The dungeons at Palermo, and other towns of importance in the island, soon became filled with political prisoners. In fact, a reign of terror was inaugurated amongst the inhabitants of the beautiful Concha d'Oro. No wonder, then, we heard—at this time—of arms being smuggled into Palermo, of secret meetings being held at the Convent of La Grancia in that city; but this was all, unfortunately, to no purpose, for a traitor was in their midst, and the incipient revolution was nipped in the bud.

Nothing daunted, however, Mazzini, the following spring, sent two Sicilians—Rosolo Pilo and Giovanni Correo—to keep the flame alive, and these were the pioneers of the Marsala 1,000—or rather 800, 420 of whom were gentlemen. Amongst them was Turr, the Hungarian—now a general of the Italian army—the three Cairolis, Tuckori, who was afterwards killed at the Porto Termini, Palermo, and the future statesman, Crispi.

In the latter end of the month of March 1860, the first muttering of the storm that was eventually to hurl Francis the Second from the throne of the two Sicilies, and blot out for good the scathing rule of the Bourbons from these fair countries, was heard in the Sicilian

capital. And now to put the reader in full possession of what was passing from day to day during this eventful period, I place before him dates and extracts relevant to the rising, as they were jotted down at the moment.

As early as March 18th, 1860, the *Argus* had arrived at Palermo from Messina, to look after British interests in that capital.

The Viceroy, or Lord Lieutenant, was away at the time, but returned on the 22nd of the month, when, as commander of the vessel, I paid him my official visit. The nobleman who held this onerous post was Prince Casteldicara, a distinguished soldier, but then a very old man, and quite unfitted to cope with the troublesome elements gathering around him. In his youth he had served in the English cavalry, having been an officer in our Inniskilling Dragoons and 4th Dragoon Guards. In the former he was present at the battle of Waterloo.

The Prince had, more recently, been Neapolitan Minister Plenipotentiary at the Court of St. James, and spoke English fluently, and without accent. In appearance and features, he very much resembled our Governor of Malta at this period, viz. Sir Gaspar le Marchant. He was, shortly after my interview with him, recalled to Naples. On the same day—whilst visiting the great Marsala wine merchant, Mr. Ingham—I was introduced to the Marchesa P—, late Mrs. Fry and formerly Miss Frost, daughter of the noted Chartist leader.

On March 30th, I was asked to be present during a conference of English merchants, at the British Consulate, to take into consideration the threatening state of affairs at Palermo, and to hear one of their number, a Mr. Thomas, give evidence about the expected revolt. This gentleman considered a revolution imminent, and referred me to a Madame Celesti for further information respecting it. This lady—who was evidently "behind the scenes" in the drama about to be enacted—endorsed all Mr. Thomas's views; and now I thought it necessary to make arrangements with our energetic Consul, Mr. Godwin, for the security of English life and property in the coming struggle.

March 31st.—Heard that the police had been searching English houses for arms during the night, and that many foreign families, and also native ones, were about to quit the city.

April 1st.—A report of 150 persons having been ar-

rested during the night, and that great uneasiness prevails amongst the citizens.

April 2nd.—Marchisa Motto, a young man of fashionable appearance, came on board the *Argus* to ask if I would receive his uncle—some high personage—who was deeply compromised with the rebels, as a refugee. I was obliged to refuse, it being contrary to my instructions to do so. The Sbirri—or secret police—were showing great activity in routing out the leaders of the revolution.

April 3rd.—Outbreak of the revolt expected to-morrow. Received on board treasure on deposit.

April 4th.—Firing heard in the town at daylight about 5 A.M. Sent an officer (Mr. Coen) in cutter to learn the cause, and at 6 A.M., repaired on shore myself to find the revolution had commenced. Not many armed people were in the streets, but hot work was going on at La Grancia Convent, which the rebels were defending. Troops, in companies, at the corner of the streets kept shouting “Vive le Rei,” and the artillery were firing grape shot down the “Via Teledo.” I saw one man killed, and found the consulate full of refugees. At 8 A.M. the firing had ceased. I then visited the British merchants, who declined going afloat, so I returned to *Argus* at 10 A.M. At noon, rumours were prevalent of further disturbances to take place at nightfall. Sent an officer with letter to the Consul, advising British subjects who wished to embark, to do so before dark. Mr. Thomas and family went on board a Danish schooner. The Whitakers, Marsala merchants, with their children, came to *Argus*. The firing recommenced towards evening, but was confined to the suburbs of the town. It is announced that the Friars of La Grancia Convent held out bravely, and had three of their number killed, but were finally overcome and made prisoners. The troops sacked the convent and hawked its books about the streets.

April 5th.—Fighting still going on in the suburbs. Rumours reached the ship of great military losses. I went ashore to the Consulate, for the purpose of ascertaining the truth about it, and there met Messrs. Rose and Gardner, English merchants, who did not conceal their sympathy with the rebel cause. The new Viceroy arrived from Naples. An ominous stillness greeted his entrance into Palermo, all the shops were closed and streets deserted.

April 6th.—I received a letter from Consul Godwin reporting town quiet and enclosing a copy of Neapolitan proclamation by General Salzano, praising the citizens for their neutrality on the 4th inst. Ten thousand dollars were sent on board *Argus* this day for deposit.

April 7th.—Blowing a southerly gale. Three Neapolitan war steamers arrived full of troops. They were cleverly disembarked. Their presence will ensure the quiet of the city. No firing heard this day. A report

was in circulation that two women had been killed at windows on the 4th.

April 8th.—A good deal of firing all round the town last night; the troops burnt down a house that had harboured rebels. The city remains tranquil, evidently playing a waiting game; no business of any sort is transacted, and the people seem much alarmed. I visited Consul and merchants; General Salzano had issued another proclamation in which he hopes that the Palermitans will regain confidence and return to their daily occupations. Received news of large bodies of insurgents being about nine miles distant, and troops said to be going after them. Bagaria has been evacuated by the military. Six young noblemen were arrested yesterday and marched through the streets with hands bound together; my friend, Prince Jardinelli, being one of the number. They were supposed to have formed the permanent committee of insurrection.

April 9th.—The town quiet; no firing took place last night or to-day. Two steamers and a number of boats crowded with people left the bay before dawn. I cannot get my dispatches taken to our Admiral at Malta. The *Hercules*—Neapolitan war-steamer—re-anchored from a night's cruise somewhere. She embarks women and children for Naples. I sent my dispatches to her for conveyance, but they are returned.

April 10th.—See buildings burning in the neighbourhood of Bagaria. I walked up the Via Teledo and found a few shops open, and a good many of the lower class of the population lounging about the street. The people were not allowed upon the Marine; cordons of troops remained drawn across it, with artillery to support them. We hear that the fires near Bagaria were caused by the soldiers burning insurgent houses. General Salzano has issued another proclamation, in which he states that the troops defeated the patriots at St. Lorenzo, near Mr. Whitaker's country house. Many of the former—wounded—have been brought into the city.

April 11th.—Very little business doing in the town. Shops are still closed. English screw-steamer, *Milan*, arrives from Catania. She reports that town ready to revolt, and that the city of Messina was being bombarded by the forts.

April 12th.—Reports have been in circulation that the Neapolitan troops were defeated at a village four miles from Palermo, and many of them taken prisoners. H.M.S. *Orion*—screw liner of 90 guns—made her “number” from the officer, and signalled: “Have you intelligence for Admiral?” Answer: “Yes.” She anchored in the evening, and I had communications with Captain Frere her commander.

April 13th.—Took a walk about the suburbs of the city, and found cordons of troops drawn across all roads leading into the country. The Viceroy rode to British

Consulate, and assured Mr. Godwin that everything was quieted; hardly had he returned to his Palace when a great demonstration was made by the people in the Via Teledo in honour of States, and in disparagement of the Neapolitan Government.

April 14th.—Consul Godwin reports that the post for the interior had resumed its functions. Shortly afterwards we hear that the post-carts had been sent back by the insurgents with the Royal Arms defaced, and the post-boys livery taken from them. Neapolitan packet steamer refused to take my dispatches to Naples.

taken place. Send off my dispatches by Sicilian steamer to Messina and Malta. The Neapolitan steamer *Capris* leaves the bay with troops on board.

April 17th.—H.M.S. *Assurance*, Commander Aynsley, arrives and leaves again for Messina. A large Royal force composed of infantry and cavalry march out towards Bagaria. Some troops went round Monte Pellegrino in the Neapolitan steamer *Hercules*, with shoreboats in tow. Shortly afterwards some wounded soldiers were brought into the city hospital.

April 20th.—H.M.S. *Amphion*, Captain Thomas



TOWN AND HARBOUR OF MESSINA.

Witnessed a sad sight. Thirteen of the insurgents taken prisoners on the 4th instant were brought down opposite the ship's anchorage, and shot. Their bodies were thrown into carts and trotted off to the Campo Santo for burial without Church rights. Hear that the Duke de Cesaro and his son, 16 years of age, had been arrested in the night and conveyed to prison. Call upon Signor and Madame Celesti—the former a Royalist. They tell me that Messina is quiet, and that the country people are bringing in their arms to the authorities. I doubt the truth of this news.

April 16th.—A rumour of further executions having

Cochran, arrives, our Admiralty having ordered the squadron on the coast of Sicily to be reinforced. Admiral Fanshawe sends me a letter of "approval" on my being superseded as senior officer at Palermo.

April 21st.—Drive out to the Duke de Serra del Falco's gardens, and hear of a fight having taken place at Mon Reale two days since. Palermo is becoming much more lively.

April 22nd.—I visit the Favorita Gardens, and find the orange trees in full blossom. They fill the air with their fragrance.

April 23rd.—An American and French man-of-war

arrive. A small demonstration has been got up in the town in honour of France. A Sardinian frigate anchored in the bay.

April 24th.—Neapolitan steamers actively conveying troops here and there along the coast. Called on Captain Palmer, of the American steam corvette *Iroquois*, and land with him. Found guards posted in the streets and sentries doubled. Little demonstrations were going on in the side thoroughfares, and cries raised for Victor Emanuel.

April 25th.—All the shops in the city are again closed, the troops having orders to fire upon the people making demonstrations. I call on the captain of the Sardinian frigate.

April 26th.—H.M.S. *Assurance* arrives with dispatches and sails again for Messina. I receive a return visit from the Sardinian captain, and afterwards walk Belmonte Gardens, where Lord Nelson and Lady Hamilton once resided.

April 27th and 28th.—Demonstrations in the city continue, and all business is suspended. I visited the Campo Santo with Captain Cochran, and witnessed the method of burial. The ground is laid out in pits to the number of 365. One of these is opened each day of the year to receive the corpses of the poorer classes who may be brought there for interment. The bodies, placed in shell coffins, are conveyed from the city in small hearses, drawn by one mule, and on arriving at the pit's mouth, they are simply removed from the coffin and let drop through the round aperture that forms the entrance to this receptacle for the dead. At the close of the day a cart-load of quick-lime is emptied into the pit, and the covering slab of stone replaced over the hole and cemented down, where it remains until another year has elapsed, when it is removed that the cavern may again receive its ghastly occupants. A few bones and rags is all to be seen of the remains of those interred there previously. The bodies of five soldiers from the military hospital were thus disposed of during our stay in the cemetery.

April 29th.—Land with Captain C., and find soldiers patrolling the streets and in occupation of the Botanical Gardens.

May 1st.—A Neapolitan frigate anchors off the town.

May 3rd.—A steamer arrives from Messina with news that the Neapolitans had raised the state of siege at that place.

May 4th.—A proclamation has been issued by the Viceroy, forbidding the people from carrying arms on pain of death. The Inghams, Marsala wine-merchants, quit the island for England and America.

May 5th, 6th, 7th, 8th.—Quail have arrived in large flights on these dates, and I shot great numbers on Monte Pellegrino and in shumack fields in the plain.

May 9th.—We invite the English residents in Palermo

to a "play" on board the *Argus*. Many ladies, and also officers from the foreign ships of war, attend the party. Our principal actor, an ordinary seaman, excelled himself in the *Thumping Legacy*. A grand supper finished the evening entertainment.

May 10th.—H.M.S. *Intrepid*, Commander Marryat, arrived from Messina, and I received orders from Captain Cochran to accompany her to Marsala. We started at 8.30 p.m. The bay was alive with fishing-boats, and I found it difficult to keep the *Argus* clear of them.

May 11th.—Steam between the islands of Levando and Favinana and Sicily. Have the Porcelli and Formiche rocks on the port hand, and found the channel very narrow. Anchored off Marsala in nine fathoms, and about two miles distant from the town. *Intrepid* anchors inshore of us. About 11 a.m. I landed with Commander Marryat, and we both called on our Consul, Mr. Cousins, and Mr. Harvey (manager of Mr. Woodhouse's wine establishment), to obtain information respecting the present political state of the country around Marsala, so that Commander Marryat might convey the latest news that evening to our Admiral at Malta. Whilst conversing with Mr. Edwards (Mr. Harvey's assistant), two Sardinian merchant steamers were reported to be coming in from seaward full of armed men. They steamed round the *Intrepid*, and then pushed on for the Mole. One of them got safely into the inner harbour, but the other grounded at its entrance. Shore boats came off to the latter vessel, and she commenced disembarking a number of red-shirted men, and landing them near the lighthouse at the end of the Mole. A Neapolitan war steamer and a sailing frigate were in sight to the eastward. The former, with signals flying, was rapidly closing with the Sardinian. It was a critical moment, and we asked each other's opinion as to whether she would open fire upon that vessel before the men were clear of her, for if so, we might witness a fearful slaughter under our very eyes, and at the same time stand a good chance of being ourselves struck by a ricochet shot. A doubt seemed to occupy the mind of the Neapolitan commander, for he brought his vessel to a standstill close to the *Intrepid*, and hailed that sloop to enquire if those were English soldiers landing. He of course received a reply in the negative, but was told that there were English officers ashore as well as the commanders of both British ships. Upon this, he requested that a message might be sent to recall those officers, as he was about to open fire upon the parties landing from the steamers. In the meantime, the Sardinians were putting ashore men, stores, and ammunition as fast as possible. The gunner of the *Intrepid* now joined us, bearing the Neapolitan commander's message, on which we despatched him at once to the town to warn our officers, and at the same time requested

Vice-Consul Cousins to cause the British flag to be hoisted on all houses and wine stores appertaining to Englishmen in and around Marsala. Presently, a boat was seen to quit the Neapolitan war steamer and pull towards the grounded Sardinian. She had not, however, reached more than half-way to the vessel, when a panic appeared to seize those in her, and a retreat was hastily made to their ship, which now opened fire upon the Mole with her heavy guns. Commander Marryat, Mr. Cousins, and myself embarked at once in a gig of the *Argus*, and proceeded on board the Neapolitan to beg her captain to direct his shot and shell clear of the British wine establishments. To our surprise, we found that officer to bear the name of a fine old English Roman Catholic family, and to be complete master of our language. He is now (1883) Admiral Acton, and Italian Minister of Marine. He seemed much impressed with the responsibility of his situation, but promised not to injure British property, pointing out to us that his guns were laid for the Mole only, and along which the red shirts were seen making their way for the town as fast as encumbrances would permit them. We now left him, and were pulling for the *Intrepid*, when the Neapolitan sailing frigate came bearing down upon our boat, and her officers hailed and waved to us to pull faster. Hardly had they done so when a veritable storm of shot and missiles of all kinds, delivered from her broadside guns, passed over our heads, but fell short of the Mole. One of her shot, however, entered Mr. Woodhouse's wine establishment, and nearly killed Mrs. Harvey, the manager's wife. The next vessel to arrive upon the scene was the *Capri*, a hired armed steamer in the service of the King of Naples. She commenced firing, but we could not trace the course of her shot. An officer from her went on board the *Intrepid*, with the cool request that one of the latter's boats should go to the Sardinian steamers and demand their surrender. He received a very decided negative reply. I now returned to the *Argus*, and shifted her anchorage nearer the wine-stores for their better protection. The Sardinian steamers being completely deserted, the Neapolitans sent in armed boats to take possession of them. They succeeded in bringing out the one that had entered the inner harbour, but scuttled the other that had grounded at its entrance. The Neapolitan steamers continued, during this operation, to fire heavily at parties dragging guns and ammunition into the town, but we only saw one man knocked over. The patriots stood fire splendidly, and appeared to be altogether a fine body of men. Hostilities ceased at sunset.

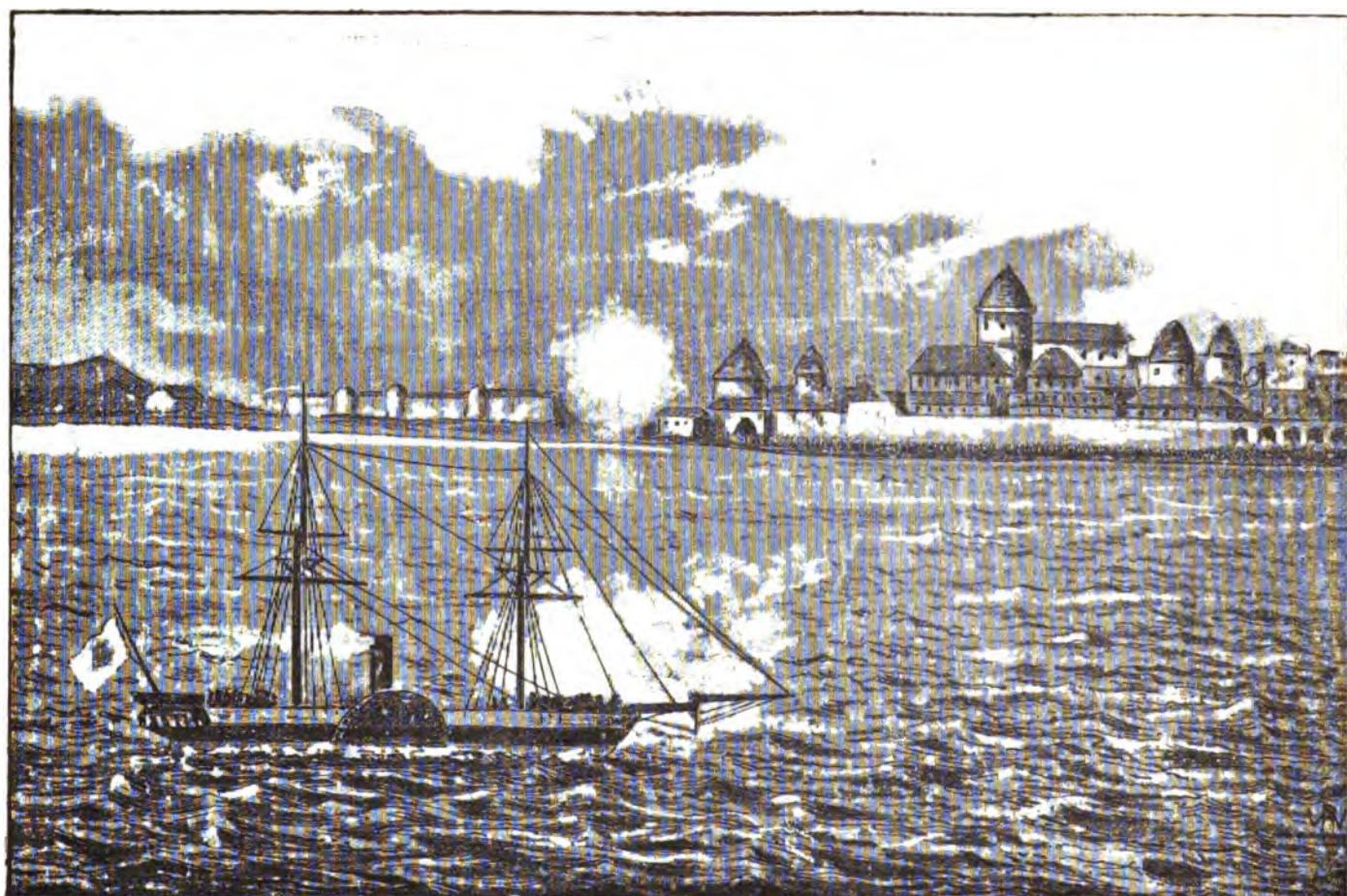
May 12th.—At 5 A.M., the officer of the watch reported that the red-shirted troops were marching out of Marsala by the south road, and that they numbered about eight hundred. Soon afterwards Consul Cousins came on board with the information that Garibaldi himself

was with the landed force, and had sent a message requesting that I would receive on board the *Argus* the crews of the Sardinian steamers he had run away with from Genoa. This I declined doing, as it would have appeared a breach of neutrality. Commander Acton, of the Neapolitan war steamer *Stromboli*, next paid me a visit, to say that his senior officer in the frigate *Parthenope*, had ordered him to destroy the Sardinian steamer remaining aground by firing shot at her, and as she lay in a line with the British wine establishments, if I would send and warn the people there to keep under cover. I requested him to destroy the vessel by some other means, as he would now have no enemy to contend with, as General Garibaldi and his men were in full march on Palermo. He seemed surprised and disconcerted to learn that the great revolutionary leader was present with the troops, and went away muttering that he must obey his commander-in-chief's orders. I sent an officer ashore to warn the residents at the wine stores, and also a lieutenant to the *Stromboli*, with my official protest against the proceeding contemplated by her commander. This, it would appear, had the desired effect, for he sent boats in to destroy the Sardinian instead of firing at her. Much alarm was felt at the wine establishments at the reception of my message, and 3,000 dollars (cash) was sent from Mr. Woodhouse's store for safety on board the *Argus*. The wives and daughters of the employers were also about to embark, when I was able to reassure them, and point out that their lives were no longer in danger. On landing, I found the crews of the Sardinian steamers and the Sardinian Consul waiting at Mr. Ingham's stores, to beg I would receive the former in my vessel. I explained that I could not possibly comply with their request, unless they could prove that their lives were in danger by remaining ashore. Failing to do this, I recommended them to follow General Garibaldi, who had—most certainly had—made himself their proper protector by taking them from Genoa against their will. I also found a Neapolitan Government agent sheltering at Mr. Ingham's stores, he being afraid of returning to the town on the chance of falling in with Garibaldians. When visiting Mr. and Mrs. Harvey at Mr. Woodhouse's wine establishment, I was introduced to the American Consul and his wife, who had taken refuge there, so as to be under British protection. They had, nevertheless, a narrow escape from the fire of the Neapolitan ships, a shot from them having passed close to the English flag flying over the stores, and another had gone through the wall of the latter and destroyed two large casks of wine. I put this damage down to the *Capri*. News reached us here of troops marching from Trapani. They turned out to be patriots *en route* to join Garibaldi. At the same time, a Neapolitan steamer, full of soldiers, passed by Marsala. The

Stromboli accompanied her, leaving the *Parthanope* frigate cruising in the offing. The town remained quite quiet. The names of the Sardinian steamers, bringing the Garibaldians, were the *Piedmont* and *Lombard*.

May 13th.—The Neapolitan frigate was seen on the horizon, steering to the north. H.M.S. *Assurance* arrived from Malta and Girgenti, and quitted again for the former place with my despatches to the Admiral. The Genoa sailors tried hard to induce her commander to give them a passage to Malta, but he declined doing so on his own authority, as the Neapolitans would have

the town much excited and many people wanting to embark. The royal troops were throwing up earthworks at the land entrances to the city, on the Mon Reale road. Two thousand foreign troops in Neapolitan pay had arrived the previous day, as it appeared native soldiers were not to be trusted. I received a visit from the captain of the Sardinian frigate, and told him the case of his co-patriot sailors at Marsala, but he was afraid of compromising his Government by moving in the matter. He told me that Garibaldi had thrown up his official rank of general in the Piedmont army, so



THE NORTH SIDE OF MARSALA. (From a Sketch by the Author.)

at once denounced him as in league with the Garibaldians.

May 14th.—I decided to start again for Palermo, as British subjects there might soon be in want of help. On landing, to acquaint the English residents with my resolve, I was met by the crews of the Sardinian steamer, who fell on their knees and implored to be taken on board the *Argus*. All I could reply to the poor fellows was, that I would acquaint my senior officers at Palermo with their condition.

May 15th.—Arrived at Palermo, at 7 A.M., and found

that the Sardinian Government should have no further control over him. I visited my old friends amongst the English merchants, who applied to their Consul to retain the services of the *Argus* during the impending crisis. I also had an interview with the Duke and Duchess of Serra de Falco. The latter was most effusive in her expressions of gratitude, as nothing I could say would persuade the lady that the *Argus* had not gone purposely to Marsala to assist her beloved Garibaldi in his landing on Sicilian soil. The citizens also seemed to be of the same opinion, for they followed myself and

officers with shouts of "*Vive Argoose!*" whenever we appeared in the streets. I received orders from Captain Cochran to return again to Marsala, and weighed for that place at 9 P.M., when the hills around Palermo were ablaze with beacon-fires, kindled by the patriots to denote the positions of the various "Squadri" who had responded to Garibaldi's call to arms.

May 16th.—Looked into Trapani Harbour and saw a Neapolitan corvette and steamer at anchor there. Arrived at Marsala at 10 A.M., and had interviews with acting Consul (Harvey). We afterwards drove through the town where a demonstration was being made with tri-coloured flags in honour of Garibaldi. I visited two of his wounded men, and sent them medical assistance. I got a letter off to the Admiral at Malta by a Sicilian boat.

May 18th.—The *Intrepid* arrived at 3.30 A.M., with six months' stores for *Argus*; and I received a letter from the Admiral ordering me to write him a report of the occurrences here on the day of Garibaldi's landing, as he had received a telegram from Naples accusing Commander Marryat and me of hindering the Neapolitan war ships from firing on the rebels. The acting Consul came on board with a man who had witnessed the first battle fought by Garibaldi after his quitting Marsala. It took place on the 15th instant, one mile distant from the town of Calatifimi. "Five thousand Neapolitan troops were posted on a hill." Garibaldi had been reinforced by Sicilian levées; 600 had joined him from Castelletrano, and 700 mounted men under Joseph Coppla came from Mount St. Julian, near Trapani. Marsala sent him 300, and many other towns forwarded their contingents, which raised the chief's army to something like 15,000, all armed with muskets or shot-guns. These "Squadri," as they were termed, attacked from the Salermi side of the hill, whilst the Garibaldi Piedmont volunteers were stationed at its foot, and on the left flank of the enemy, with orders not to fire, but to fall down on the Neapolitans, doing so as if killed, and then to crawl through the grass and brushwood up the hill, on their bellies. Joseph Coppla's men took the ground covering the right flank of the Royalists, and the remainder of the squadrons were well in their front. The Piedmontese after getting close to the enemy, fired, and then rushed in with the bayonet. The Neapolitans at once gave way, and were shot down in retreat. Garibaldi's loss was supposed to be 53 killed and wounded. Young Garibaldi and Baron Saltanna, with two or three other officers, were among the latter. The Neapolitans lost 300 killed and wounded, but rallied again in a mountain to the rear of their last position. Garibaldi advanced his force and captured two pieces of artillery from them. The Neapolitans then reversed their arms and begged for quarter. Their General (Landi) sternly ordered them to fight, upon which they

all ran away, leaving him to his fate. They retired in confusion upon the town of Calatifimi, and many were picked off by Piedmont marksmen. The Garibaldians—worn out by the fatigues of the day—slept on the battlefield. Their leader, receiving news next morning that the enemy had retired upon Alcamo, advanced through Calatifimi in pursuit. The above was the account given by the Marsala man who went to see his brother—one of the Squadri—and was present at the battle. In the afternoon, a carriage was lent me to drive to the house of Mr. Gills, an English merchant, who had given quarters in it to the two wounded Garibaldians of the landing party of the 11th instant, and I there read an intercepted dispatch of General Landi's to the Viceroy. He commenced by urging instant help. "Help! Send us help immediately or we are lost." And then goes on to ascribe the loss of his recent battle as owing to the mule being killed which carried one of his mountain guns. He further declared that a colour of the enemy's had been taken; also that he had 62 of his own wounded with him at Alcamo, and doubted being able to defend his position there. He asked for a battalion of infantry and a battery of artillery, and gave an alarming description of the number of insurgents, who, he stated, surrounded him. H.M.S. *Intrepid* went to Palermo.

May 19th.—We heard to-day that Garibaldi had advanced beyond Alcamo, and that General Landi's army had dispersed. H.M.S. *Hannibal*—screw liner of 90 guns—flying the flag of Rear-Admiral Rodney Mundy hove in sight, bound for Palermo. She signalled: "Where is Garibaldi?" I replied: "Informing the Admiral of the battle of the 15th." H.M.S. *Caradoc*—dispatch vessel, Lieutenant Buckle in command—arrived from Malta at midnight. He aroused me to obtain news, and then started back at once with it to the Commander-in-Chief, Sir Arthur Fanshawe, K.C.B.

May 21st.—Nearly all Marsala were out to-day watching our gun practice, and we observed both male and female had tri-coloured ribbons pinned to their dresses. A rumour was abroad that Garibaldi had reached Mon Reale, and that the Royalists had returned into Palermo.

May 22nd.—Two Neapolitan steamers passed up from the south. A courier, accompanying a party from Marsala into the interior, had been taken up as a spy and sent back. I decided to go to Palermo on the morrow, and took Mr. Gordon of the wine establishment as passenger.

May 23rd.—Weighed at 8 A.M. and steered for Trapani. I landed there for an interview with the Neapolitan Commandant, in reference to the restitution of arms taken from the English merchants at Marsala by his orders, and which were now necessary to them for self-defence during the present disorganized state of Sicily. He gave me a promise to have them returned,

and I then quitted for Palermo. We met with H.M.S. *Intrepid* off Cape St. Vito. Commander Marryat informed me that the news—regarding the taking of Mon Reale by the Garibaldians—was false.

May 24th.—Queen's birthday. Anchored at Palermo, and called on Admiral Munday; afterwards we drove out to Mon Reale, where a small fight was going on in the valley outside the town and many houses burning. At night, insurgent fires were lighted on the adjacent hills.

May 25th.—I received on board *Argus*, by Admiral Munday's orders, some Sicilian refugees, namely, a Senora Villa Reale, with one son and two daughters. Afterwards I drove out with Captain Cochran to Mon Reale, and found all quiet at the outposts.

May 27th.—I was awakened at 8.30 A.M. by the officer of the watch, reporting firing to be heard on the Bagaria side of Palermo, and on reaching the deck, soon perceived that the city was attacked in force at the Porto Antonio, and that the citizens had risen upon the Royal troops and driven them from the streets into the palace, exchange, and barracks. These buildings had been previously prepared for defence, and now held out against a combination of assaults led by Garibaldi himself. An incessant rattle of musketry could be heard in the town all the day. The Citadel and Neapolitan ships of war chimed in with the roar of big guns as they threw shell into that part of the town occupied by the Garibaldians, and several fires broke out as the consequence of their explosions. The bombardment continued until nightfall, and the citadel afterwards confined its fire to throwing a shell into the town about every half hour, so as to harass the citizens who had been engaged all day in an attack upon the palace.

May 28th.—I was awakened at 5 A.M. by the officer of the watch, reporting that the Neapolitan troops were deserting their post at the Vicaria prison and running towards the Mole, and that the political prisoners and galley slaves—who had been confined within the prison walls—were making off in an opposite direction. On reaching the deck, I saw the troops embarking in boats, which were pulled towards the Citadel, and I also noticed that the people had turned out in great numbers and were plundering the prison and adjacent barracks, women and children being among those engaged in this genial task. Soon the Citadel and a gunboat opened fire on these parties as they scampered along under their loads, regardless of the shot striking the ground and throwing up dust all around them. The Neapolitans were evidently still holding out in the Palace and Exchange buildings; by the heavy firing going on in that quarter of the town, the people were, seemingly, pressing them very hard. The Citadel occasionally dropped a shell amongst the combatants. News reached the ship that Garibaldi, in person, was attacking the Palace.

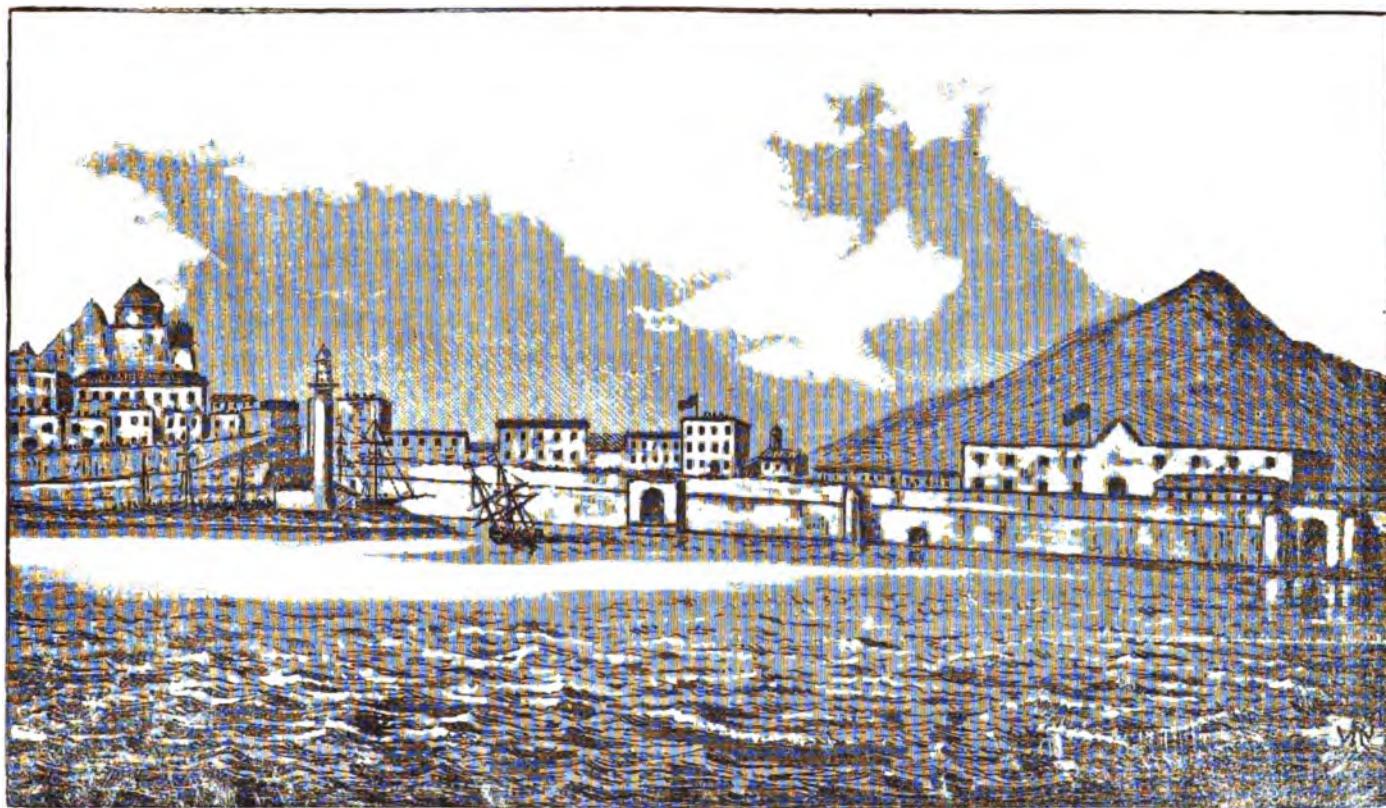
The Citadel discontinued its fire towards sunset, some fresh troops were landed there from steamers after dark. All the Neapolitan men-of-war put to sea during the night. The Royal troops remained in possession of the Palace and Exchange.

May 29th.—We received a deplorable account of the state of the city, namely, that the dead were lying about unburied, and the living dying of starvation, owing to the lack of food supply. The bombardment had done much injury to houses and churches. The citizens were still fighting to gain the Palace. The Royal troops had retired from Mon Reale and had occupied the Capuchin Convent just outside Palermo. We thought that Garibaldi had captured some guns, as the sound of cannons mingled with musketry was heard in the town all day. Reports of successes gained by the people reached the ship, but they were of doubtful origin. Two steamers landed mercenary troops (Bavarians)—in the pay of the King of Naples—at the Citadel, from whence they marched during the night shouting and firing in the direction of the Vicaria prison. Admiral Munday's flag-lieutenant (Wilmot) had seen Garibaldi during the day, and the General expressed himself as hopeful of ultimate success.

May 30th.—There were no sounds of firing heard this morning. Signor Villa Reale came on board the *Argus* to see his wife and family, and reported the citizens were desponding, not having guns to reply to the enemy's artillery. The Palace, Exchange, and Citadel were still in the hands of the Royalists. Later, I attended a conference on board the *Hannibal*, Rear-Admiral Munday's flag-ship. It had been demanded by the Neapolitan General, Letizia, who was to meet Garibaldi there. All the captains of the foreign men-of-war were present at it, with the exception of the Austrians. There were six propositions moved by the Neapolitan General, all of which were agreed to by Garibaldi except the last, which was that the Palermians were to express their regret to the King of Naples for their present conduct, and petition him to restore the constitution which had been granted the "Two Sicilies" in 1848, during his father's reign. Such humiliation was emphatically rejected by Garibaldi, and the conference broke up, after agreeing that an armistice should continue between the contending parties until 12 o'clock the following day. On Garibaldi quitting the Admiral's cabin, he took the American Commander (Palmer) on one side, and an earnest conversation ensued between them. When Garibaldi had left the ship, Palmer confided to me the tenor of what that chief had told him, and I was surprised to learn the straits the insurgents were put to for procuring ammunition wherewith to continue the strife. Garibaldi had implored the American to land the necessary supply from his ship, the *Iroquois*, under cover

of night. Palmer had pleaded his neutrality and the fear of compromising his Government; but Garibaldi urged that the United States Republic should be sympathetic in such a movement as the one he was leading. Palmer was evidently perplexed by this unlooked-for request, and, whether he did or did not comply with it, I cannot say. Garibaldi's son, Menotti, was on board the *Hannibal*. He was a fine-looking youth, and much admired by the refugee ladies in the flag-ship. He had his arm in a sling, having been wounded in the hand at the battle of Calatifimi. I afterwards paid a visit to Captain Barri, of the Austrian corvette *Dandalo*. He was very indignant at our admiral receiving Garibaldi

this morning to the city hospitals. Captain Cochran, Commander Marryat, and myself received permission from the Admiral to visit the town. We were met, on landing, by Colonel Turr, the Hungarian serving with Garibaldi. He is now—1883—General Turr, of the Italian army, and has just obtained a concession from the Greek Government for cutting a canal through the isthmus of Corinth. He has visited England lately and renewed a friendship with the author which commenced this day at Palermo. The Colonel accompanied us in our walk up the Via Teledo, which we found barricaded at many points, as was the case with every other street we viewed. All the population were armed;



THE SOUTH SIDE OF MARSALA. (From a Sketch by the Author.)

on board the *Hannibal*, and called the latter a pirate. I then went to pay my respects to the captain of the Sardinian frigate—a marquis—and found him, in every sense, a stout patriot, and of a happy disposition. He was, of course, quite the opposite way of thinking to Captain Barri. We heard of Garibaldi's party being fired upon on their return from the conference, and when in the vicinity of the Citadel; also that Carini—an officer of the Marsala 800—had been wounded in the arm by this act of treachery, and that some Bavarian troops had taken advantage of the armistice to gain access to the town.

May 31st.—Many Neapolitan wounded were brought

and we saw Garibaldi, in the square before the Senate House, addressing and exhorting the people to make fresh sacrifices to obtain their liberty. Turr took us to a 36-pounder gun he had caused to be placed in position at a barricade. This cannon had been dug up from the corner of a street, where it had done duty for years as a post to keep vehicles from encroaching on the side pavement. It was now within easy range of the Palace, which faced this barricade, at the further end of the Via Teledo, and his raw No. 1 artilleryman—who was on a par with this ancient piece of ordnance—stood with a lighted match in his hand, ready to open fire the moment the town clock struck the hour of 12.

All classes of women could be seen on balconies or at windows, armed with Orsini shells, ready to throw down upon the Neapolitans should they try to force the barricades. The latter belligerents had just committed another breach in the armistice by firing from the Exchange, and wounding two Piedmontese soldiers. The Bavarian troops that had entered the city, were now surrounded by the populace, who only waited for the hour of noon to destroy them. However, as we stood with the Colonel watching the movements of the Royal troops in front and inside the Palace, a white flag appeared over a barricade they had thrown up, and after it had been replied to by the Garibaldians, a Neapolitan officer approached, and Turr advanced to meet him. The two conversed together a short time, and then went to Garibaldi's head-quarters. It turned out to be a request from the Neapolitan Commander, that the armistice might be prolonged for three days, and to this Garibaldi agreed, thinking, probably, that he might recruit his exhausted ammunition during that time; but had he been aware of the desperate state of his enemy as regards food, he might have speedily brought him to terms by an unyielding attitude. The Neapolitans at once commenced embarking their wounded and provisioning the different posts they held on the confines of the city. Four officers only, from each English man-of-war, were permitted to go ashore for two hours. Those from the *Argus*, on returning on board, reported that they had been made much of by Garibaldi, who had entertained them at the Town Hall, where he resided. They also said they had seen no less than fourteen of the old Bourbon Police lying dead, having been shot in revenge for the life taken after the affair of La Grancia in April. There were also many bodies of the townspeople about, unburied, and the air around was infected by these decaying corpses. Many women and children took advantage of the armistice to remove to Monte Pellegrini, where they set up their tents. Old Ragusa, the landlord of an hotel frequented by English officers, and an uncompromising patriot, related, with indignation, how some of the Palermitan nobles had also endeavoured to get away, but had been stopped by Garibaldi's people.

June 1st.—Neapolitan vessels had been busy this morning landing provisions and embarking wounded men. The Royalist losses must have been very great. On going on shore I observed that the Neapolitan troops were made to skirt the town with their provisions for the Palace garrison, and even then a close watch was kept on them from Garibaldi's outlying barricades. I visited one of these at the far end of the Strada Maquada and found great excitement there, consequent on the discovery that the Royalists were concealing ammunition in their provision carts. On returning, I met Garibaldi in procession. His head was bared

as he bowed to the vociferous cheering of the multitude, and I recognized in the red shirt and handkerchief thrown over his shoulders the costume he had adopted when leading his legion to victory against the soldiers of Rosas at Monte Video in 1846-47. He gave me—smiling—a nod of recognition, and was then immediately engaged in delivering a stirring address to the Civic Guard that had been drawn up for his inspection.

June 2nd.—All was quite in the town to-day. Provisions were being conveyed from the Citadel to the Bavarian troops, who still remained in their advanced positions. I visited the Vicaria prison and barracks, and was shocked at the treatment political prisoners had evidently received. They had been cooped up in numbers within the walls of small filthy dungeons without much air or light, and with straw alone to lie upon. There was a dance in the evening on board the *Hannibal*, where I again met Colonel Turr and Menotti Garibaldi; the latter was evidently making the most of his time with the fair sex, and waltzed incessantly.

June 3rd.—This being the day when the armistice would expire, I received on board a host of refugees with their beds; amongst them was Father McGorman, an Irish priest, and a Baroness Juliana, with a number of nephews and nieces. These I had to put up under canvas on the upper deck; my cabin being already occupied by a family. In the course of the day it was known that the armistice had been prolonged indefinitely and fighting would cease at Palermo.

June 4th.—Landed with Father McGorman and walked to the Palace Square, but was prevented from entering the Royal precincts, where I had wished to observe the damage done to the buildings by the three days attack on them by the Garibaldians. The Neapolitan sentries, however, had orders to prevent our doing so. We then repaired to the Bavarian advanced posts in the city, and were surprised to find them alarmingly close to the Via Teledo, the main street in Palermo. Armed citizens were keeping a close watch upon them. We afterwards called on our Consul (Mr. Godwin), who had pluckily remained at his Consulate during the bombardment, and given refuge to many poor people there. He informed us that General Letezia had gone to Naples for further instructions from his Government. Gaities continued afloat and the refugee young ladies had a good time of it on board the British ships.

June 5th.—The weather was now becoming sultry. I walked with Captain Cochran and Lieutenant-Commander Buckle to Monte Alto—a position that had been taken by the people from the Royal troops. It was a naturally strong place; but the Neapolitans had not any artillery there at the time of its capture. We afterwards went into the Porto Antonio, where Garibaldi has forced his entry to the city. There was a barricade

mounting two guns, and close by we saw an officer, who had deserted from the enemy, drilling a squad of the townspeople. We afterwards dined with Admiral Mundy on board the *Hannibal*, and met the Captains of the Spanish, French, Austrian, and American men-of-war there. Our brave old Consul, although a complete cripple, had managed to come to the invitation. We reported that General Letezia had returned from Naples.

June 6th.—We heard of a treaty having been signed between the contending parties through the good offices of the Swiss Consul.

June 7th.—A great day in the annals of Palermo, and a glorious one for Garibaldi, but a date that will always recall disgrace to the armies of Bomba the Second. A force of not less than 20,000 soldiers—mostly mercenaries, but composed of the élite of Europe as far as physical qualifications were concerned—marched down to the Mole, and were embarked for Naples, whilst ragged, red-shirted, Garibaldian guards, who were posted at the city gates, turned out and presented arms as these Neapolitans passed by them *en route* to the boats. Too late—it was said a Constitution had been granted to the Sicilians by the King of Naples—now, nothing short of deposition would satisfy the outraged people, and the cries of “*Vive Victor Emanuel!*” which resounded through the city, proclaimed their wish to become subjects of that constitutional monarch. At this moment the Admiral ordered the *Argus* to get up steam, and informed me that I should have to go to Cagliari with despatches. However, he subsequently changed his mind, and bid me be ready to return to Marsala on the morrow. Having made the necessary arrangements, I landed once more to look at Palermo under its changed aspects, and was this time permitted to see the damage done to the Palace by the firing, and also to walk out into the suburbs beyond it, and view the positions so recently occupied by the Neapolitans. These troops, I found, had been tightly hemmed in between the squadri or raw leveés from the interior of the island, who were constantly harassing them from the direction of Mon Reale, and the Garibaldians and towns-people who were attacking from the city side. In fact, Garibaldi had performed a splendid piece of strategy, when, under cover of night, and, leaving his camp-fires burning and a good force of Sicilians to occupy the attention of the enemy, he had marched with his famous 800 by mountain paths, round the left flank of the Royalists, and when morning dawned, had reached their left rear on the beach at the outlying suburb of Missilmari; and from thence—as we have already seen—advanced to the attack of the Port Antonio. In the meanwhile, the Neapolitans were befooled by the squadri into believing that they had repulsed an attempt, led by Garibaldi on Mon Reale, and were thus drawn further inland and away from the city, which was soon made, by a system

of barricades, too strong for them to retake. They were also entirely cut off from obtaining provisions either from the sea or land, and must have succumbed to starvation if from nothing else, so long as Garibaldi held the city, but that chieftain was in sore straits for ammunition, and, had not the armistice been concluded, might have found himself suddenly without any. This the Royalists would soon have discovered, and the knowledge of the defence being crippled might have emboldened them in their endeavour to re-occupy the town. It was a curious feature in this struggle, that both the attack and defence were on the point of breaking down from two different causes at the same moment, and this made either side desirous of a pause in the conflict. But Garibaldi, sanguine as he was as to his ultimate success, could hardly have anticipated so early



GARIBALDI. (From a Photograph taken in 1860.)

and complete a triumph, and as he looked on whilst his enemies' splendid fighting material was being shipped, never to return to the Concha d'Oro, must have felt that the “God of Battles had been on his side.” Garibaldi, on entering Palermo, had called upon all the adult citizens to take up arms, but from the appearance of those whom we saw mounting guard at the city gates, the response to his appeal must have come from the town gamins, for they were, indeed, mere boys. We met Captain Palmer of the *Iroquois*, who had just seen Garibaldi, and was told by him that he intended organizing a Sicilian army of 50,000 men, that he repudiated altogether the King of Naples, and if he found Messina with its fortresses too strong for him to take, he would pass it by, and cross the Faro into Calabria,

and advance upon Naples itself. On returning to the *Argus*, I was delighted to find my cabin unoccupied by refugees, as they now, under the changed circumstances, had taken their departure for the shore.

June 8th.—*Argus* was ordered to leave Palermo for Marsala, calling in at Trapani *en route*. I landed to say good-bye to some friends, and found the people planting two guns under one of the windows, to bear on the Citadel, which, it seems, had not yet yielded to their demands for surrender.

June 9th.—We arrived at Trapani in early morning, and found Victor Emanuel's flag—the tri-colour—flying everywhere. The British Vice-Consul came on board, and he accompanied me in my visit to the Civil Governor, Baron Adragna. We passed on our way crowds of people, who made demonstrations, shouting "*Viva Ingle Terra! Viva reina Victoria!*" The Baron lent us his carriage to drive to a Carmelite convent, a little distance outside the town. It was famed for a miraculous image of the Virgin and Child, which had been brought from Cyprus in the year 200 A.D., and was a fine piece of statuary. The monks told us, with all seriousness, that the holy image cured every disease, and had prevented Trapani being bombarded by the Neapolitan ships. As a proof of her power in the former line, they showed us a room hung round with waxen representations of different parts of the human body that had been exposed to infirmities and made whole by this miraculous agency. They seemed pleased with the

wonder expressed in our faces, never thinking that it could possibly be on their account, who, amidst the advanced civilization of the nineteenth century, dared to propagate such a hoax. The presents made to the holy mother by the heads of Catholic countries were numerous, and included one from an Archduke, which was truly unique, comprising as it did a pair of velvet knee-breeches with costly ornaments, such as diamonds and other precious stones down their sides. It is fair to state that this particular gift dated from the darker ages, but there were many others, of a less pronounced character, that had been sent either as propitiatory or grateful offerings, by *devotées* in quite recent times. After quitting the Convent, we were driven to some beautifully laid out gardens, in which art the Italians excel. These left nothing to be desired in the way of good taste, which comprised the proper placing of statuary, so as not to offend the eye when taking in the delicious colouring of flowers, and the artistic arrangements of shrubberies and paths. The Vice-Consul informed me that the Neapolitan troops had quitted Trapani by sea on the third of the month, and that there had not been the slightest disturbance in consequence. He also said that the arms belonging to the wine establishments at Marsala had been sent there in H.M.S. *Intrepid*. The *Argus* left Trapani at 2 P.M. under sail and steam, and dropped anchor off Marsala at 5 P.M.

H. F. WINNINGTON INGRAM.

(To be continued.)

NAVAL AND MILITARY NOTES AND QUERIES.

VATTEL'S THEORY ABOUT SPIES.—It is not contrary, he says, to the law of nations to seduce one of the hostile side to turn spy, nor to bribe a governor to deliver a town, because such actions do not, like the use of poison or assassination, strike at the common welfare and safety of mankind. Such actions are the common episodes of every war. But that they are not in themselves honourable or compatible with a good conscience is proved by the fact that generals who resort to such means never boast of them, and, if they are at all excusable, it is only in the case of a very just war, when

there is no other way of saving a country from ruin at the hands of lawless conquerors. A sovereign has no right to require the services of a spy from any of his subjects, but he may hold out temptation of reward to mercenary souls; and if a governor is willing to sell himself and offer us a town for money, should we scruple to take advantage of his crime, and to get without danger what we have a right to get by force? At the same time a spy may be rightly put to death, because it is the only way we have of guarding against the mischief he may do us.

R. O'BYRNE.

LETTERS FROM A FRENCH DRAGOON TO AN ENGLISH JOURNALIST.

EDITED BY ALBERT D. VANDAM.

(Concluded from p. 162, vol. vi.)

II.

HOUGH it is only a fortnight since I became an acknowledged defender of my country, I feel a dragoon from the soles of my feet to . . . "the crown of my head," I was going to say. But that would not be quite true, because the top extremity feels somewhat uncomfortable when adorned by its new head-gear, the helmet. To all outward seeming it rests firmly enough on my "brain box," but inwardly I feel conscious that in this apparent firmness there is more of the art of maintaining an equilibrium than of anything else. Of course time, that mends all things, will also mend that, but for the moment I cannot help fancying myself a scullion taking an ice pudding to a dinner party. The very thought that the slightest deviation or collision may cause destruction to the load I am carrying makes me shudder. No doubt the concern for the integrity of my beautiful, classical *couvre chef* has something to do with this anxiety. If ever it is to be battered and bruised like an old tin kettle, my head must be in, not out of it, and the sword of some Uhlan or cuirassier of the German Guard must do the damage. But for the present it is not patriotism, but *esprit de corps* that makes me apprehensive of its tumbling off. For I consider myself as much the custodian of the dignity of the regiment as if I were its colonel.

Yes, dear friend, *esprit de corps*, it is wonderful how that kind of thing springs among people all dressed alike; so wonderful, indeed, that I am almost tempted to write to my uncle the *député*, that he should recommend a uniform to be worn by the legislators of my country at all times and seasons. They could not look less attractive than they do, and with an absolute identity of dress there might come to them an *esprit de corps* that might prevent them from falling foul of each other in the newspapers and outside the senate.

For one thing is certain, that the most irreconcilable enemies inside barracks leave their feuds the moment they pass the gates. One sees now and then a scuffle betwixt dragoons and hussars, more often a quarrel between a foot and a horse soldier, but within the memory of man there is no record of two or more

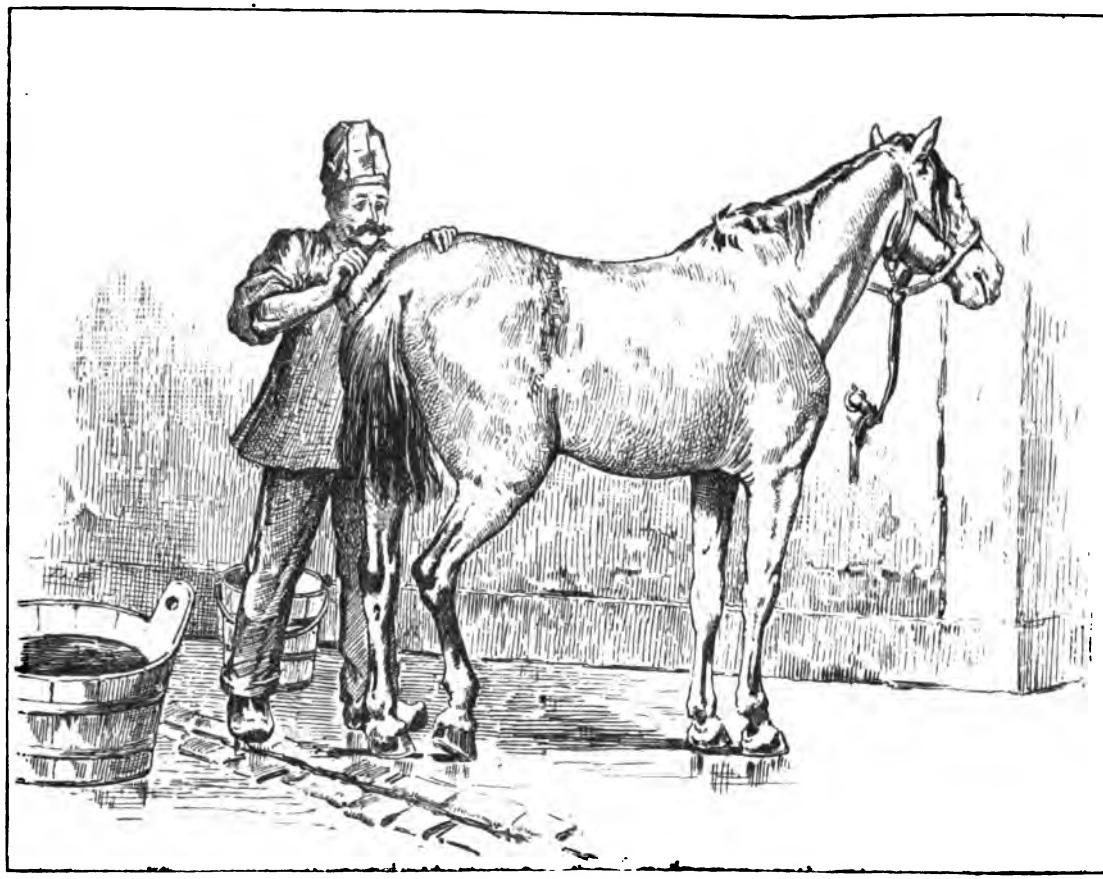
dragoons having attacked each other in public. Dumas the elder, who with Shakespeare and Balzac, is one of the three men I know that resemble the nobles mentioned by Molière's Mascarille, in that they seem to know everything without having taken the trouble to learn—Dumas the elder had a vision of that *esprit de corps* when he wrote the *Three Musketeers*. Look through the whole book if you like, and you will find the *Mousquetaires du Roi* confront *les Mousquetaires Gris* or *Chevaux Legers*; you will never find either of these men stand up against their own comrades.

You are too sensible, I know, to treat all this as so much "barracks' philosophy," still I must inflict no more of it upon you. Not that I relinquish the privilege of boring you now and then with my reflections, but sufficient for this day is the evil thereof.

Let me tell you then, dear friend, that I am not in the least unhappy. Much of this state of mind proceeds, no doubt, from my invincible determination at starting to make the best of my twelve months' bondage; still, I may frankly admit that I should perhaps be less happy than I am had I not an animal of which to take care. Apart from my love of horses, I should advise every recruit to use such influence as he may possess to get into a cavalry regiment. The fatigue, the drill, is double that of a foot soldier, but he may make sure at any rate of finding one creature to sympathize with him—at least after a time—his horse. As yet I am only on bowing terms with mine, or rather I bow and scrape to him, and he accepts the homage. Parachute is a very dignified animal, though he has the secret of some sudden jibs and jerks, whence his name. But I hear that he is a remarkably good trotter. As I told you just now, up to the present he has been somewhat standoffish, though not churlish. I feel well enough that, during our long hours of communion, he watches me like a man watches a new servant. And, with a servility bordering on obsequiousness, I do my best to please him; I rub him down and groom him with infinite precaution; I study his ticklish points, I avoid any and everything that might be construed into roughness; I use the currycomb to the accompaniment of Offenbach, Hervé, nay, of Ambroise Thomas and Gounod—I dare not sing Wagner to him. I arrange his litter of golden straw with a care that would do

infinite credit to the Abigail of a newly married duchess; his bed is incomparably softer than mine. If he has scattered his oats in his manger, I re-arrange them in little heaps for his greater comfort; I cajole and coax him, make myself his humble slave. I polish his boots—he wears two pairs at a time—I put on his dressing-gown; and after all these attentions, to which I devote three hours and ten minutes every day, he bright like a newly-coined penny, I dirty like a pig, we take each other out to have a drink. Not knowing his predilections, whether they are democratic or aristocratic, I have not dared avow to him my college degree and my position as a one year's volunteer, lest I should raise

dawn next morning. You are laughing, and accusing me of exaggeration. I am in sober earnest. The military code, which they read to us the other day, is playing the deuce with my hitherto imperturbable good humour. There is penal servitude and capital punishment at the end of every paragraph, like the *ora pro nobis* after every litany. When I heard it, I felt inclined to say, like Parade in *Les Faux Bonshommes*, while they were reading of his daughter's marriage settlements: "Cheerful, indeed! they speak of nothing but my death!" For, according to that code, the step between insignificant dereliction of duty and absolute crime appears so small, indeed so slippery, that I



My MASTER!

prejudices which I might not be able to lay. I prefer him finding out these things gradually, and possibly for himself, for, though I am his humble slave, I should not like to do without Parachute. And seeing that he has just rung his bell, and that I miss one of my stable-clogs, I must conclude this letter abruptly. Your affectionate PAUL.

DEAR FRIEND,—That missing stable-clog which I happened to mention at the end of my last letter, might, had I not luckily replaced it in time by a borrowed one, have brought me before a court-martial and led to my summary execution before a dead wall at

scarcely dare put one foot before another. You happen to get a sudden irritation about your olfactory organs while in the ranks; as a matter of course you sneeze, and bang, you catch it! The necessity of sneezing is not denied, but you should not sneeze at the wrong moment; that's all. You get a week's cell and you may only explain, after having undergone your punishment, that you had a violent cold in your head. Should you dare do so before, the plea might be admitted as valid, but you would be none the better off, for you'd be punished for answering, so it would come to the same thing after all. It reminds me of that piece we saw together at the Haymarket—I think it was called *School*

—in which they discuss the question, Who shot the cow? “What does it matter to the cow?” says the philosopher of the play.

Lest you should not believe me, let me tell you what happened the other day. They had just sounded “grooming,” when a “blue” came running along with his kepi on his head, all the others wearing their stable-caps. The officer of the day stopped right in front of him. “What do you mean by that?” he said, pointing to his head-gear; “Two days’ police cell.” “But, Lieutenant,” answered the lad, who, being a Southern, could not keep his tongue between his teeth, “but, Lieutenant, the Quartermaster told me to give my cap to be numbered.” “Is that true, Quartermaster?” asked the Lieutenant, knitting his eyebrows. “Yes, Lieutenant, it is true.” “Very well, I quash that punishment; but the man must do twenty-four hours cell to teach him not to answer.”

“The man” is an elector and a Southern, so I leave you to imagine his indignation, and yet the officer had but performed his strictest duty; for the regulations say distinctly: “At the announcement of a punishment the man must first of all submit, provided the punishment be just; he may only appeal against it, and that through the hierarchic channel, after having shown his obedience.”

“Provided the punishment be just,” says the code. Now, my dear friend, you go and tell people that justice in this instance means a higher justice that takes no count of the individual, and looks only to the benefit of society as a whole, to the interest of all before it looks to the interest of one; tell this to people and the chances are that, to quote the same words, “in the interest of all” they apply to two physicians and get you put away in a lunatic asylum. And well they may, for I defy them and you not to be struck by the utter idiocy of some of these punishments inflicted in every regiment in the name of this abstract justice. The following are a few facts, for the authenticity of which I can vouch. They were given to me by De V_____, of whom I have already spoken, and who copied them from the Orderly Book of a sergeant-major of infantry. It is what Zola would call a *document humain*:

“Two days’ confinement to barracks to drummer Pellevillain, by order of Corporal Vignerot, for having degraded his pompon by having put the same in his mouth.”

“Four days’ cells to Private Frodard (the company’s tailor) by order of Sergeant Fallières; went on parade in a state of complete intoxication.”

“Two days’ cells to Private Dumoutier (the company’s cook), by order of Corporal Bruchet; presumed to call the Corporal a “cute one” without justification.”

“Four days’ confinement to barracks to Private Bre-

tannier, by order of Sergeant Hameau; greased his moustaches with the grease intended for his rifle.”

“Two days’ cells to Private Cistoque, by order of Sergeant Grandelet, for having taken the great-coat of his comrade, who was on leave of absence, off his shelf.”

“Two days’ confinement to barracks to Private Pallot, by order of Corporal Innocent, for having maltreated an inoffensive wheelbarrow.”

“Four days’ cells to Private Callot, by order of Captain Vaillant. This man having absented himself without permission, answered the commander of his company, who asked him how he had spent his time: ‘I went from planet to planet, as far as the moon, and finally got down again by the tramway of the Bastille.’”

“Two days’ cells to Private Malorty, by order of Corporal Jablardot; the latter having taken him to task about his want of cleanliness, as testified by his feet, the former replied: ‘My feet are cleaner than yours.’ Which was not the case.”

“Four days’ cells to Private Curquigny (the Lieut.-Colonel’s orderly), by order of Sergeant Colombe, for having struck the horse of the Colonel, who was taking his fodder, with a pitchfork.”

“Four days’ confinement to barracks to Sergeant Mathieu, by order of the Adjutant, for having allowed a large yellow dog within the barrack-gates after he had been prohibited from so doing.”

“Four days’ confinement to barracks to Private Fontaine, by order of Corporal Canard (in charge of the dormitory); has emitted the cry of that animal (the duck) as the Corporal stepped into the room.”

Your friend, PAUL.

NOTE OF THE EDITOR OF THE LETTERS.—I have endeavoured to translate as faithfully as possible, but it is impossible to convey to English readers the comic side, as exemplified in the diction of these extracts.

DEAR FRIEND,—The end of my last letter bristled with allusions to “confinement to barracks,” “cells,” and other amenities of a soldier’s life. Personally I have no experience of these as yet. “And not likely to acquire any,” you add mentally. Probably, nay possibly not, but I should not like to pledge my oath to that effect. A young man may be an excellent soldier, cleanly, pains-taking, obedient, sober, and yet find himself one fine evening lying benumbed with cold on the wooden boards of the cells, and not necessarily through the ill-will or martinetism of his superiors. With your leave, I will come back to that question another day. For the present let me thank you for the trouble you took about that remittance from my father at Hong-Kong, though I shall have to disabuse your mind of a grave error with regard to the moral value of a well-filled purse in the regiment—mind, I say moral value. Though it may surprise you, my friend, money gives not the slightest

prestige in the French army ; an honoured name may stand one in good stead with one's superiors and comrades, mere money has no effect whatsoever in that way.

In that little paper you sent me which contained a biography of General Boulanger I found that while the future Minister for War was at St. Cyr he had often to choose, on his days out, between his appearance and his appetite ; between primrose kids and a good meal. He chose the former, and lunched on an apple puff. I can well believe it. A non-commissioned officer, leaving the barracks on a Sunday morning with five francs in his pocket, will stop at the glove shop and spend four francs seventy-five cents on his "hand-shoes"—as the Germans graphically call them—in order to

man whose parents are sufficiently well off to supply him with abundant pocket-money for at least three years and a half—for there is no choice between the one-year volunteer and the ordinary recruit who serves during the latter period—these parents prefer to spend that money in a lump and pay the 1,500 fr. premium already mentioned. Of course there are young men, who, though rich, fail in passing their examinations. But they are rare indeed, and such blockheads would never get the mohair, let alone the gold *chevrons*, were they to stay till they were grey. On the other hand, the volunteer, however clever, must have ten months of active service before he can aspire to the latter. By that time he is within two months of his discharge, and as a consequence the authorities, very wisely, do not



WAKE UP!

make a decent appearance. This recklessness clears him out, and leaves him without a penny until the end of the month ; but that is simply a matter of personal inconvenience. It is borne cheerfully for the sake of the dignity of the uniform, which he is not the only one to wear, and which dignity, according to his opinion—and a very good opinion it is—would be compromised by a pair of soiled or shabby gloves on the hands of a quartermaster. No doubt there is a little bit of personal vanity, not to say foppery, in this seemingly misplaced lavishness ; still the great motor of it is the underlying sense of military solidarity, and a concern for the dignity of the corps to which one belongs. And remember, dear friend, that the rich non-commissioned officer scarcely exists in the French army. The young

promote him until they have ascertained his intentions about re-engaging. Nay, few colonels ever inquire seriously about their intentions. They have found out by now that they are a foregone conclusion. In fact the question of an efficient supply of efficient non-commissioned officers is fast becoming the despair of those who have to deal with it. Of course I shall not presume to solve it, still I'll refer to it at length some other day. Meanwhile let me give you the latest. We are having an early winter down here, and last night it was freezing heaven's hard. Everyone in the room, except myself, was fast asleep. I had tucked myself in comfortably, put my riding-cloak on the bed besides, and lay quietly reading, when suddenly the door opened, and two men came in shouting, singing, and gesticulating.

"Hallo!" says a voice, which I recognize as that of the brigadier of the 3rd *peloton*, "everybody asleep in here?" "Let's make them 'take the train,'" whispers his companion, but loud enough for me to hear. "To make one take the train," means simply to pull one of the trestles from under his bed; as a natural consequence the man comes down, bedding and all. "Let's make them takethe train," repeats the other, persuasively. "Never!" shouts the brigadier of the 3rd *peloton*, in a commanding tone. "Never; I should like to catch you at it. I object to these tricks in my own room, and I am not going to tolerate them in that of others." The practical joke having been nipped in the bud, the two step up to the bed of my neighbour, Vincent, of whom I'll tell you more anon, and begin shaking him with all their might. "Up, Vincent, up! I'll stand a litre . . . and a crust." Pray take note that Vincent is sobriety itself; that it is freezing heaven's hard; that it wants but a quarter of an hour to having the lights out; that this idea of crossing the barrack yard, in order to swallow a quantity of horrible stuff without being goaded by thirst, is that of a madman. Very well. Nevertheless, Vincent, who was sound asleep, first opened one eye, then both; a smile that might have made angels envious overspread the whole of his countenance, his bliss seemed too deep for words; so, without uttering a syllable, he got into his clothes as if obeying some higher power, and off they went.

The litre and its accompanying evening crust, for which they have to go so far, notwithstanding the nipping blast, stumbling through the mud, across the pitch-dark yard, their bare feet in their wooden clogs, with scarcely anything but their shirts and trousers under their big cloaks—the litre and the crust which they'll have to swallow in haste, for the bugler "on guard" is already preparing his instrument—well, friend, that litre and crust is the forbidden fruit almost to men whom discipline, not to say poverty, condemns to pure cold water—taking the purity for granted. That litre and the crust means a bit of gossip; and few can imagine that bit of gossip outside Mme. Lafleur's canteen. There they put their elbows on the table and the bottle between them, while the small stove roars to get itself into a white heat, as it were, like the elder Kean shaking a ladder at the wings before "going on" in *Othello*, to get himself in a passion; with this difference, that the actor succeeded, and that the tiny stove miserably fails. Yes, that litre means the bit of unrestrained gossip about home, about the trivialities of the barrack-room; it means the endless songs with the noisy chorus at the end of each verse, the boasting of their peaceful conquests among the weaker sex, the sentimental confidences, the cock and bull stories; it means oblivion of fatigue duty, of punishments suffered, and unconcern for those to come: it means the poesy of garrison life.

I know a score of honest fellows who stint themselves the whole of the week with the sole aim of treating themselves and their comrades on Sunday nights, to that ideal litre, flanked by an enormous loaf and a crisp little salad of watercress or dandelion. From the metaphorical point of view, that traditional litre of the canteen assumes proportions scarcely short of the idyllic; when one divests it of its halo, and reduces it to its intrinsic value, when one judges it not only with one's heart, but with one's palate and lips, one must necessarily come to the conclusion that it is horrible—horrible stuff. In fact, my pen has got drunk with the very recollection of it, for all that I have been telling you is only the preface to the night's event.

I do not know how long I had been asleep when I was suddenly awakened by a rocking, rolling motion, and on opening my eyes I beheld Vincent shaking me as boys shake an apple tree. "What the devil is up? Why don't you leave me alone? What's the time?" I growled in one breath. "Never mind the time. Don't you hear the bugle?" came the reply. At that moment there was a trumpet-blast, sufficiently loud to have brought down the walls of Jericho. Notwithstanding the darkness, I tried to look round, and then I perceived that all the men were sitting on the sides of their beds, their night-caps—for the peasant wears a night-cap—still pulled away, their owners with that peculiar, daft look on their faces of folk who are being suddenly disturbed in their sleep. At the same time I became aware of a nipping, biting cold sensation; and no wonder. The window was wide open, and leaning, or rather hanging out of it our brigadier—very much like Tam O'Shanter—and with his ears pricked up. Then another blast, which made the helmets rattle against each other, and the panes of glass shake in their frames. "That's it," shouted our chief, turning round; "four calls; look sharp, all of you." And forthwith, in that dark room, confusion, accompanied by an indescribable hullabaloo, reigned supreme. There were loud curses as each man in his turn tried to strike a match, but miserably failed. But the candle, lighted at last, faintly illuminates the whitewashed walls, which in their turn reflect the weird, grotesque shadows of a score of men groping for their most indispensable garments, and sneezing in unison in the glacial night air. "Put on your woollen vest, it is freezing hard," muttered my faithful Vincent. "You are right," I answered, endeavouring to find ingress to my trousers; "but what's the matter, what are these four calls?"

"There's a fire somewhere in town, and our squadron is on fire duty," he replies. The door is thrown open, and in rush the quartermasters, their kepis peaks hindmost, their tunics half-buttoned. They shout like madman for their horses, giving no promise of reward for the appearance of the faithful steed, like Richard on

the field of Bosworth, but simply threatening punishments dire, knocking about everyone and everything, and making confusion worse confounded. Nevertheless, a few minutes later the whole of the squadron is ranged in line near the barracks gate. The men have their foraging ropes slung across their shoulders; the cold is intense. The adjutant, a lantern in hand, stamps and swears, and gives contradictory orders while waiting for the captain-adjutant-major, whom someone is gone to fetch. "Where is the fire?" "At the Prefecture." "It began in the sacristy, and the church-steeple has already fallen in." "A bit of lighted candle has dropped into the fodder. It wants no more than that to set the whole place alight. You know the old oil paintings, they blaze like fury," etc. etc.

According to all this talk, one imagines that the whole town is already a prey to the devouring element. Nevertheless, on looking up, one fails to notice the faintest glare, lurid or otherwise, in the sky. There is no crackling sound of burning timber, no smoke clouds are driven before the sharp north-easter which chills the marrow in our bones. And for full thirty minutes we remain stamping our feet, buffeting ourselves, lest we should freeze to death on the spot.

"Where are the ladders?" comes a question. "There are no ladders, nor any diving apparatus to descend into the cellars," comes the answer, equally mysterious, from another quarter. Then there is a general comment and the laudable determination, unanimously applauded, to try and save the victims at the cost of our lives. The conversations only cease when the sound of hoofs falls upon the air. It is a quartermaster bringing

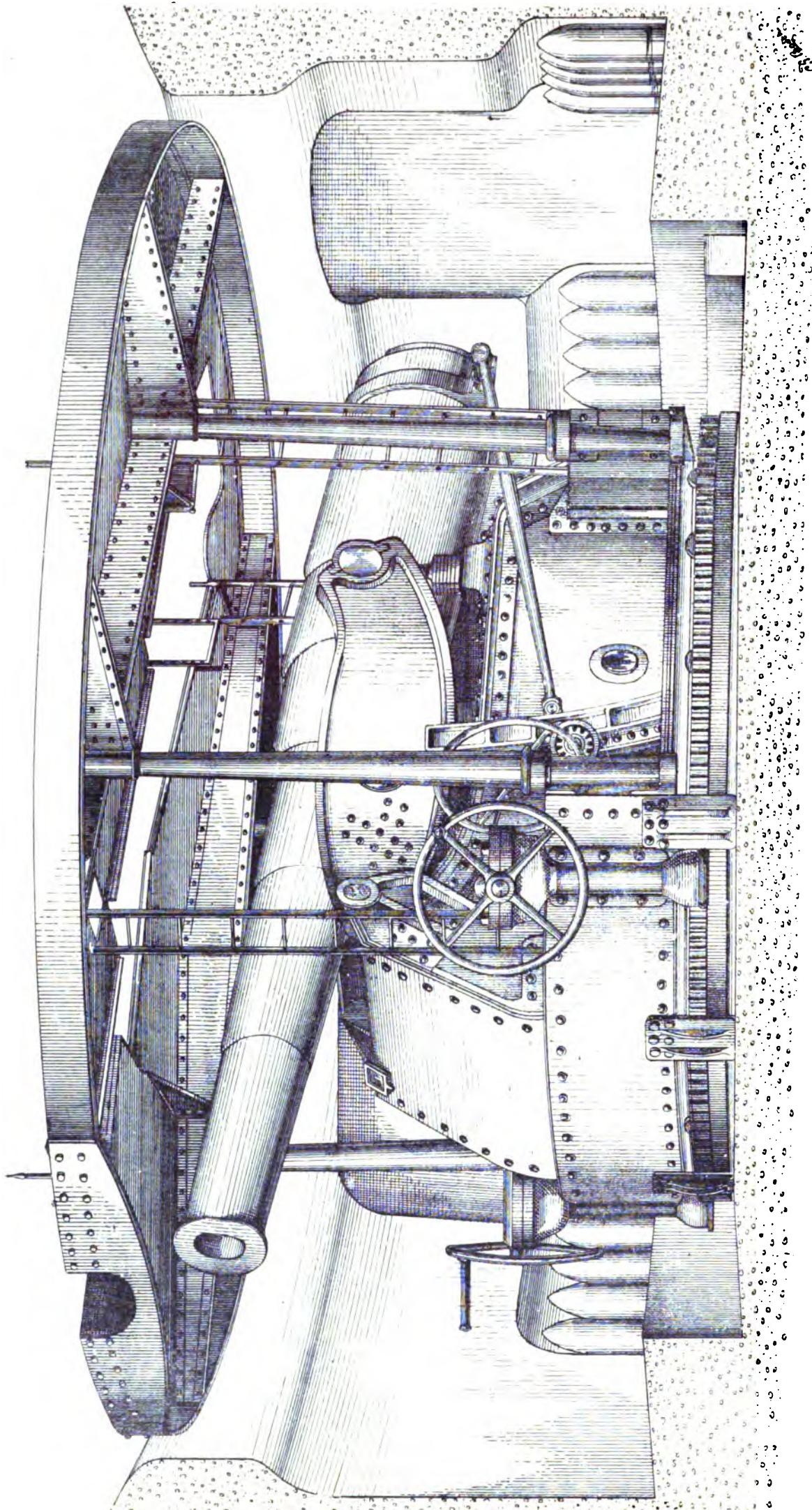
news from the scene of the disaster. A newspaper kiosk has caught fire on the boulevard at the other end of the town. There was some apprehension of the conflagration spreading on account of an adjoining carpenter's shop. We can turn in again. The men look and express their disappointment. Seeing that they are up, they might just as well have had the benefit of the interruption to their night's rest. It reminds one of De Cabameres being hauled out of his bed to fight a duel. He felt very sleepy, and asked whether there was no means of settling the affair. Still he did get up. By the time he was dressed, his seconds told him that his adversary was drunk the night before, and that he was quite prepared to apologize. "I am d——d if I accept the apology, now that I have got my clothes on." Some one tried to console us by promising us a treat in the way of a fire perhaps next week. Our sheets have got ice cold, through the window having been left wide open. No chance of settling comfortably to sleep again. At last I fall into a doze, which lasts exactly three quarters of an hour. The forty-five minutes proved a compensation, for at the moment the bugle sounds the *réveil* I had saved three old men with white hair, half-a-dozen women of exceeding beauty, and a score of cherubim-like children from the devouring element. I had received the Cross of the Legion of Honour, and the Commander of our *corps d'armée* was embracing me with tears in his eyes, calling me his young valorous friend. I felt the tears wetting my own cheeks. It was simply Vincent, throwing cold water in my face to awake me.

Your Friend,
PAUL.





PLATE 1.

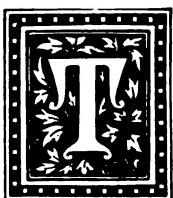


AN 8-INCH B.L. ARMSTRONG GUN MOUNTED ON THE ELSWICK HYDRO-PNEUMATIC DISAPPEARING CARRIAGE
THE GUN RECOILED TO THE LOADING POSITION

From *Armament and Munition* by Sir W. G. Armstrong, 1890

STEEL APPLIED TO MODERN WARFARE.

By MAJOR-GENERAL E. MITCHELL, R.E.



HAT valuable metal steel, chemically known as carburet of iron, is formed by the chemical combination of iron and carbon. The manufacture of steel has, of late years, developed into an art, as regards its production for the material of war.

The Hatfield Company, Firth of Sheffield, Vickers & Co., Cammell & Co., Sir T. Brown, and other Sheffield firms, have brought the art of producing steel in the shape of armour-plating, gun cores, steel guns, steel shell and rifle barrels, to a high degree of perfection.

Steel, having its specific gravity greater than that of iron, possesses the valuable property of being rendered of adamantine hardness by suddenly cooling it when heated. It has also the peculiarity, when instantly cooled at a lower temperature than redness, of becoming specially elastic.

In general terms, Steel is manufactured by two processes ; one, the natural steel, prepared direct from pig-iron ; the other, the cemented steel produced by heating bars stratified with powdered charcoal in a close vessel.

After the mass has been kept a specified time at a proper degree of heat, blistered steel is the result.

As blistered steel necessarily contains the imperfections of the mechanical texture of the iron from which it was produced, other varieties of steel are prepared from it, such as cast steel, and shear steel.

The cast steel being fused and cast into ingots, drawn into rods, and subsequently rolled, becomes not only hardened, but free from the defects of blistered steel, and takes an admirable dark polish. Shear steel, used chiefly for tools and cutting instruments, is formed from bars of blister steel, faggotted and rolled out at welding heat.

Of late years, Steel has been made by various processes. In addition to blister and cast steel, and shear steel, there is the steel formed by means of the air blast forced through the molten pig-iron, under what is termed "The Bessemer Process." The oxygen of the air enters into combination with the silicon and carbon of the molten pig-iron, and thus retains the iron in a molten condition until it is brought into the malleable state. Ingots of steel can then be formed by hammering and rolling.

Puddled steel is formed from puddling pig-iron, and stopping the process at the right moment when there is the proper quantity of carbon.

There is also the granulated steel, made by running melted pig iron into a cistern of water over a wheel, which dashes it into the form of grains or small lumps. The strength, or more properly the toughness, of steel is increased by being hardened in oil instead of water. The fracture of steel is an undeniable test of its quality. Should the fracture have taken place suddenly, a granular appearance presents itself ; but if the fracture is a slow one, a silky fibrous appearance is the result. Should the fracture be fibrous, then the angle diverges more or less from 90 deg. Speaking generally, steel plates, hardened in oil, and then jointed together with rivets, are said to be equal in strength to an unjointed soft plate.

As both cast iron and steel rapidly decompose in warm and sea water, great practical skill, combined with extreme care, is therefore essential in selecting the cast iron or steel for such positions.

Steel industry is no new thing. Hesiod, so long ago as 750 b.c., mentions "bright iron," and Aristotle also alludes to it. Steel is said to have been imported into Greece from the country of the Chalybes about 500 b.c., and about 200 years later, soldiers in the Persian Army were armed with swords, whose blades were formed of thin slips of steel, secured with iron wire, and welded together. That celebrated writer, Pliny, narrates something of its manufacture. The Moorish steel blades, and Damascene swords, have a world-wide reputation.

Our own War Office have acquired an unenviable reputation for allowing something like bogus steel bayonets, which bent or broke in the heat of action, to be supplied to our soldiers, while our sailors also seem to have had some comparatively useless cutlass bayonets. As some members of Parliament became inquisitive, a Parliamentary Committee in the year of Grace 1887 has been discursive on that subject, and the newspapers have also had their say on the matter. As Lord Randolph Churchill has told the nation in a recent speech at Wolverhampton, that the copyists at ten pence per hour do all the *real* work of the War Office, perhaps, therefore, that Department ought to be pitied and not blamed. At all events it is hard on "Tommy Atkins" to find,

when he endeavours to drive his bayonet into the ribs of an enemy, that the article bends or breaks, and that he is killed by, instead of killing, the Arab, or enemy.

In the thirteenth century, Sheffield took its place as a steel manufactory ; and the length, sharpness, and finish of the Sheffield arrow-heads used at the Battle of Bosworth Field, is an historical record.

The metallurgical industry is also alluded to in Chaucer's *Canterbury Tales*, and in 1600 it is recorded that Sheffield had become celebrated for its tobacco-boxes, and Jew's harps, and contained 2,207 householders, one third of which could not live without the charity of their neighbours. The steel trade of Sheffield has long been a most important local industry, both English hematite and Swedish iron being used in the manufacture. From time to time improvements in the manufacture of steel, the results of long and tedious experiments, were made, and about 1740 cast steel was much used in place of blistered steel, though the new alloy was more difficult to work.

A good demand from abroad kept up the supply, and one of the traditions of Sheffield tells how the secret of the new manufacture was discovered by a local iron-founder. One cold winter's night, according to the tale, during a heavy snowstorm, and while the manufactory was in full work and casting its glare of red light over the neighbourhood, a person of the most abject appearance presented himself at the entrance, begging and praying for permission to share the warmth and shelter thus afforded.

The humane workmen found the appeal irresistible, and the tramp was accordingly permitted to lie down in a warm corner of the building, and pretended to go to sleep. As no one paid any attention to him, he was able to watch the workmen narrowly, and discovered the salient points of the new process. He noticed that bars of blister steel, broken into tiny pieces, were placed in fire-clay crucibles, and covered with a thin layer of broken green glass. Close-fitting covers were adjusted on the crucibles, which were then placed for some hours in a furnace. From time to time the crucibles were examined, and their contents thoroughly incorporated and melted. The contents of the crucibles were duly poured into a mould of cast iron, and allowed to cool. The crucibles were refilled, and the process repeated. Finally the contents of the mould were hammered into a bar of cast steel.

Most manufacturers, however, vary the details of the process, and usually exact much secrecy regarding their own methods of manufacture.

Great Britain having employed wrought iron or steel plates not only in coast defence, but also as a protection to our war-vessels, it is satisfactory to know, as a result of the experiments that took place at Shoburness in August and September 1883, that the plates

generally behaved well, and fairly stood the tests, and consequently armour-plating has been much employed of late years by foreign nations. The shields which were to represent the protection afforded to granite forts by iron or steel plates, were constructed as follows :—

One was formed by two plates of wrought iron, sandwiched with five inches of wood behind them. Each plate was 12 feet long, 7 feet high, and 8 inches thick. They were supplied by Messrs. Cammell, and held in their places by six bolts on the English Palliser system.

The other shield consisted of 12 inches of Wilson's steel-faced iron, in a plate 7 feet by 7 feet, fixed inside an iron frame. Old broken plating was laid on the top to prevent the masonry and concrete from rising under the force of the blow. The gun employed to test the structures was the 80-ton M.L., mounted 200 yards distant.

The first round fired was a Palliser chilled iron projectile 3 feet 8½ inches long, weighing 1,700 lbs., with a charge of 450 lbs. pebble powder. The shot cut a hole clean through the plates, but broke up during penetration ; but the hole presented hardly any apparent effect on the surrounding portions of the plate. The wood was driven outwards, and the granite pulverized all round the projectile, but the bolts do not appear to have suffered materially.

The second shield was fired at in September, with a similar Palliser shot, the striking velocity being under 1600 feet per second. The plate stood the experiment well ; it was, of course, bent and bulged, but the shot broke up, its head being fixed in the plate. The bolts stood well. Taking the work done by this round, about 30,000 foot tons work were delivered on the shield, yet the radial cracks from the hole were nearly all hair-cracks.

In October 1884 an important competitive trial took place at the Spezzia experimental ground, Italy, between the steel-faced plates of Cammell, and of Brown, and the solid steel plates of Schneider at Muzgiano. The object of the experiment was to test the effect of fire from the Armstrong 100-ton B.L. gun, 17 inches calibre, on steel plates, proposed to be ordered for the armour of the Italian barbette towers, *Italia* and *Lepanto*. The programme ran as under :—

Cammell and Brown's compound and Schneider's steel plates 10 feet by 8 feet 6 inches by 18·9 inches were mounted on frame and backing. One round was fired at the centre of each plate from the 100-ton B. L. Armstrong gun, followed by a round at each of the corners of the plate. The Schneider steel won the victory ; the English plates were beaten.

In justice, however, to the Sheffield manufacturers of steel-faced iron, I mention that at a proof trial in 1885,

at Spezzia, of steel Schneider plates, they indicated a less satisfactory character, thereby proving that the high class of plate prepared for the 1884 previous competition had not been maintained.

Many experiments took place at Shoeburyness in 1885, and clearly indicated that steel-faced armour should invariably be strengthened by rigidity of backing. The experiments tested the armour with its backing proposed for the *Admiral* class of ships, and it was proved that steel-faced plates 18 inches thick, of wood and steel, did not stand the fire of the 80-ton gun as well as 16-inch plates with the additional two inches of iron added on the structures.

A shield to resist shot and shell fired from an 80-ton gun at close range must, of course, be exceptionally strong. In the experiments alluded to there was necessarily yielding locally, but leaving a good front protection.

In August 1885, at Ridsdale, Northumberland, an Armstrong 9·2 in. B.L. gun projectile, weight 892 lbs., striking velocity 2166 ft. per second, and energy (or blow) 12760 ft. tons, perforated an 18-in. iron plate and entered 6½ inches into a 7-in. plate in the rear.

Steel-faced armour has been very successful in resisting the fire of heavy Artillery when well backed, and when its adamantine surface has been able to tell. Thick plates and indifferent support behind, have invariably resulted in disappointment, or rather in a victory of the gun projectiles over the shield. The hard face of the steel armour gives an immense advantage by reason of its powers to throw off oblique blows, a condition which would be far the most frequent in actual warfare. The special conditions under which the steel-faced armour has been fairly perforated would very rarely occur in the heat and excitement of battle. The experiments proved that steel-faced armour resists the perforation of projectiles much more strongly than solid steel, probably owing to the face of the latter having a less degree of hardness to resist, at the moment of impact, a hard sharp point or frustum of the conical projectile from entering it. There would probably be something due to the fact that compound plates are rolled, and solid steel plates hammered. Probably the process of rolling very thick plates does not reach the interior, as does hammering with 100-ton hammers. The vibration of the hammers tends to prevent crystallization, and so to preserve fibrous structures, probably on the same principle that agitation of saltpetre or other substances in solution prevents the formation of large crystals. Practically, it is necessary to roll heavy compound plates, which, speaking roughly, are about one-third of their thickness steel and two-thirds iron. To secure toughness, hardness of surface is somewhat sacrificed, and as projectiles are now made to a high degree of special quality, and fired

with heavy charges to give full penetrating power, probably, in the long run, hard rather than tough armour will be preferred.

Messrs. John Brown & Co., of Sheffield, are said to be manufacturing armour plates on a compound system, steel faced, which may prove to be superior to all steel armour. There seems to be no doubt that the Schneider steel armour tested in the experimental Italian ground at Spezzia won a decided victory over the English plates. Possibly the English plates absorbed so much of the energy of the impact of the first heavy blow, that they subsequently became in a worse position than the Schneider plates, which allowed the projectile to pass through more freely. Probably better means may be discovered of manufacturing very thick plates, which will resist artillery-fire under any conditions likely to occur in actual warfare.

Good penetrative results were obtained at the Shoeburyness experiments in 1884, with Palliser and other projectiles. A cast-steel projectile of Hadfield's passed through a steel-faced plate without breaking it up. The inference drawn from the experiments was that wrought-iron armour transmits the shock of the supporting structure less than steel-faced armour. It is an interesting and practical problem which, perhaps, may be some day satisfactorily solved by some of the Sheffield firms, such as Messrs. John Brown & Co., Vickers & Co., Hadfield's Steel Founding Company, Messrs. Firth & Co., Messrs. Peach & Steel, etc., to manufacture plates for compound armour with a sufficiently hard steel face, combined with a tough steel body, to successfully repel the fire of heavy artillery, and give the nation a metallic substance which can be utilized to efficiently protect fortifications on our coast, and also our ships of war, from demolition under a hostile attack. The Shoeburyness experiments of 1885 have proved that, with steel-faced armour, rigidity of backing should be secured even at the expense of thickness in the plate.

In the celebrated Spezzia experiments to which we have alluded, three kinds of plates were tested from each of the three following firms, viz. Cammell, Brown, and Schneider, and each weighed about 32 tons. No. 1, Cammell, a wrought-iron plate, steel-face, applied on Wilson's patent, rolled down from a thickness of 30 in. to 18·9 in. The steel, extending to a depth of 6 in. in the finished plate, contained 0·65 per cent. of carbon. No. 2, Brown's plate, differed somewhat from the above in having a thin rolled steel face, 8 in. thick, attached to the wrought-iron plate by molten steel, on Ellis' patent. The total thickness, 6 in., was, however, the same, but harder, containing 0·7 per cent. of carbon.

Both Cammell's and Brown's plates were bolted on to backing by means of six soft steel bolts, screwed into the back of the plates to a depth of 4½ in. in screw

STEEL APPLIED TO MODERN WARFARE.

holes $5\frac{1}{4}$ in. deep, the diameter of the bolt end $4\frac{1}{2}$ in. On this was a plus thread on the Palliser system, 5 in. in diameter over the thread; the bolt fitted the hole tight to keep out water. The rear end of each bolt was secured by a washer fixed on a similar screwed thread to the front end holding against the back face of the backing.

The Schneider's (Creusoto Company) plate was entirely of steel, and said to contain 0·45 per cent. of carbon. It had been hammered down under a 100-ton hammer from a thickness of 7 ft. to 19 in. The face had been tempered by heated oil. The plate was secured by twenty screw bolts, each $4\frac{1}{2}$ in. diameter with a thread $\frac{1}{2}$ pitch screwed into the back of the plate to a depth of $2\frac{3}{4}$ in.

The structure of the target backing and supports was as under—

Each plate was set in an iron frame made of three thicknesses of strips of 6-in. armour, the width of the frame being about 33 in. and the thickness about 18 in. These were bolted to the backing. The supporting frames were about 2 ft. apart from edge to edge. Each plate frame had a long prop at each end, extending from the top towards the front. On the whole, it may be seen that the backing was soft though well supported. Had the frames been held together at the corners, they would have been very powerful, but as it was they were of little use.

The projectiles were of Gregorini chilled iron. They were about 44·5 in. long and 17·64 in. in diameter, the head being struck with a radius of $1\frac{1}{2}$ diameters, and the bottom made to take the original Elswick gas-check employed with them. The weight, including the gas-check, was about 2,000 lbs.

On Nov. 16th the experiments commenced. In No. 1 round, Cammell's plate was struck with a striking velocity of 1,219 and 20,600 foot energy, and a penetrative power of 19·28 in. of wrought iron. The projectile broke up, the plate was completely broken through; and a check crack and hair cracks developed.

No. 2 round was fired at the Schneider plate, charge and projectile as before. Striking velocity 1,238 ft., 21,050 ft. tons energy. This plate admirably resisted; no crack. The iron frame was started, and a small portion of the backing and a few small bolt heads snapped off. The projectile as in the former case, broke up.

Brown's plate had the benefit of round No. 3. The projectile broke up after striking with a velocity of 1,222 ft., and 20,710 ft. tons energy.

On 17th November the experiments were continued. The first round struck the Schneider plate near the bull's eye. The striking velocity was 1,555 ft. per second, a total energy of 33,500 tons, and a penetration of iron of 24·7 inches.

The shot penetrated the plate, and produced the following effects:—

The plate split vertically across; cracks forming and opening; a ring crack ran partly round the centre mass of the shot—a Gregorini chilled shot. The shot became at once intensely hot, and heated the target. Hair cracks appeared in various positions. The back of the target stood well; small bolts were detached and frames cracked, but no plate bolts were materially injured.

These tremendous shocks entailed immense work on the plate; though disintegrated, it stood, and would have kept the shot out of any ship. Practically it is virtually impossible for a ship on service to receive such blows at such short range. The employment of a large number of bolts was most judicious, and probably saved the plates, when cracked, from being dislodged.

Firing continued during November. Round 5, fired at Brown's plate, practically split it into six main fragments. The projectile was Gregorini chilled iron (probably not equal to an English chilled projectile), striking velocity 1,564 ft. per second; stored-up work 33,910, and perforation of wrought iron 25·17 in.

The shot penetrated but little, but smashed the plate. The centre wood backing was split and torn, and the side frame pieces partly forced out. The plate bolts were, with the exception of two, snapped or drawn.

For ready reference I give in a tabular form the table of charges, velocities, etc. of the M.L. Gun.

No. of round.	Fired at	Charge, weight of.	Projectile, weight of.	Initial velocity. Metres.	Striking velocity. Metres.	Striking energy. Foot-tons.	Striking energy per ton of plate. Foot-tons.	Work per inch circumference. Foot-tons.	Equivalent penetration of wrought-iron, inches.
1	Cammell	{ 149 kg. (328·5 lb.)	907 kg. (2000 lb.)	377·5 371·5	1219 20,600	654·0	371·7	19·3	
2	Schneider	"	"	377·8 375·5	1232 21,050	668·2	379·8	19·5	
3	Brown	"	"	374·8 372·5	1222 20,710	658·5	373·8	19·3	
4	Schneider	{ 217 kg. (478·3 lb.)	"	476 474	1555 33,500	1064·	606·0	25·0	
5	Brown	"	"	478 476·6	1564 33,910	1076·	612·0	25·2	
6	Cammell	"	"	479 477	1565 33,980	1078·	613·0	25·2	
7	Schneider	"	{ 942·5 kg. (2078 lb.)	471·4 468·8	1538 34,080	1081·	615·1	25·2	
8	Schneider	"	{ 963·5 kg. (2124 lb.)	464 461	1512 33,670	1069·	607·7	25·1	

It seems clear that Schneider's plate was an excellent one, especially as regards its number and arrangement of the bolts, and the tempering of the plate.

The effects of the chilled shot on the projectile is remarkable. It is generally supposed that chilled shot are not effective against steel-faced armour, but the telling blows given in the experiments assuredly drove the targets into a very misshapen condition. On a ship's side the resistance of the backing would be a more rigid support to the armour.

The Russian Government, in November 1882, contributed a valuable quota to armour-plate trials in the experiments at Ochta near St. Petersburg.

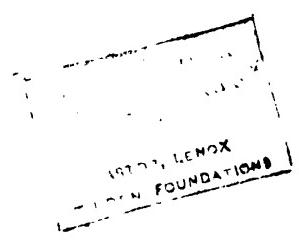
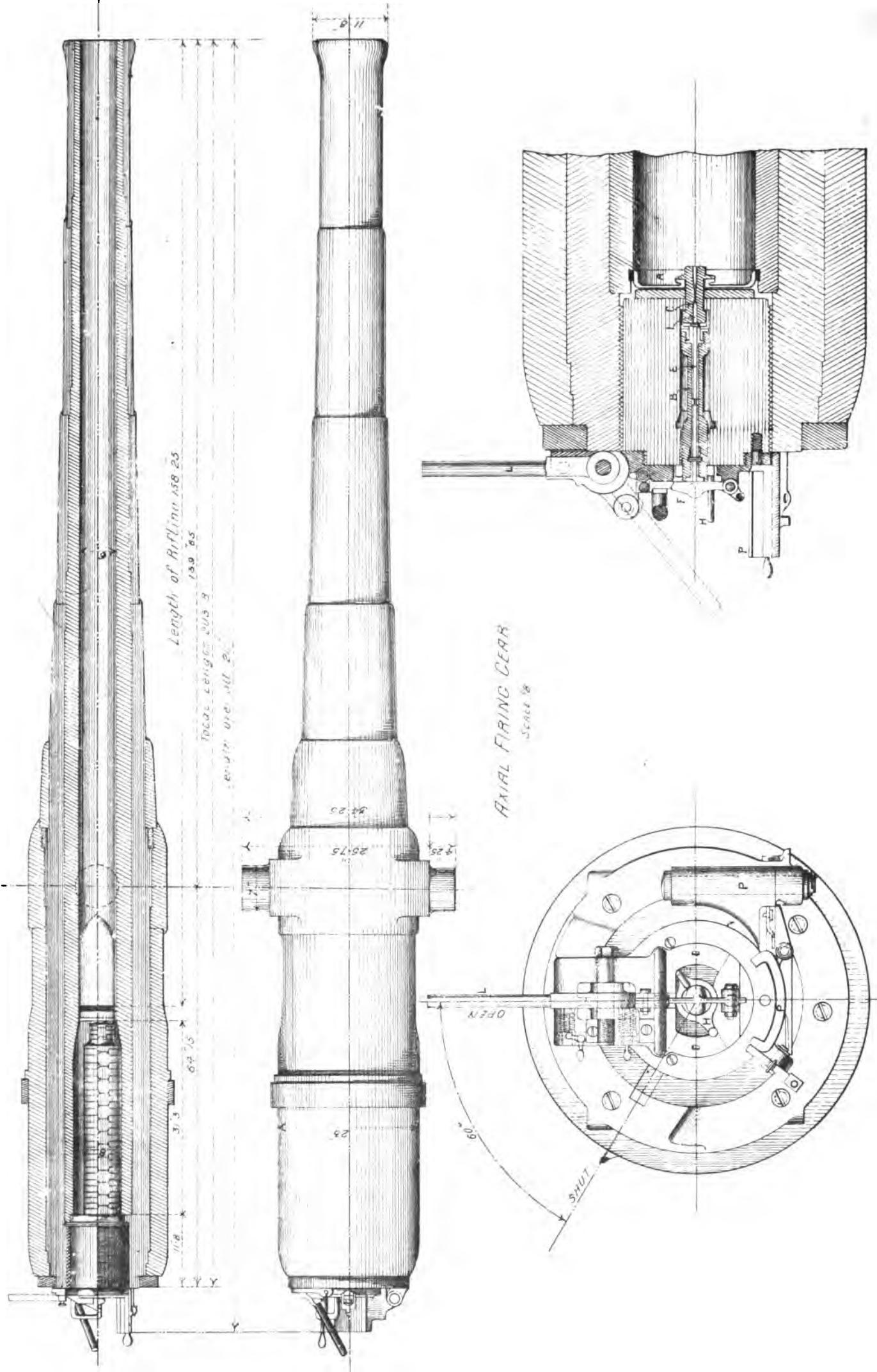


PLATE. 3.



6 INCH 5 TON BREECH LOADING ARMSTRONG GUN

SCALE 1/8

A Schneider and a Cammell compound plate, each 8 ft. long, 7 ft. wide, and 12 in. thick, weighing about 12½ tons, were experimented upon.

Both plates were strengthened by a backing of 12 in. of timber placed horizontally, and by two ¾-in. iron plates supported by diagonal struts. They were fired at from an 11-in. Aboukoff B.L. gun, chilled-iron shells, prepared at Perm in the Ural, being employed. The charge of powder was 182 lbs., and velocity 1,506 ft. per second.

The shot broke up, but the Schneider plate was broken into pieces at the first round. The Cammell plate was left intact save certain small radial cracks.

The Cammell plate stood the trial much the better, but, being only held with backing by four bolts, it became detached.

Those who wish to learn the details of the manufacture of modern guns and projectiles, may find all they need either at the Elswick factories, or the Royal Arsenal at Woolwich, and study for themselves. Modern guns are now very numerous, and many patterns are in use, which, though, largely originating at Elswick, are not wholly derived from that source.

Our illustration of a plan and section of a 6-in. 5-ton B.L. Armstrong gun is from a drawing kindly furnished by the Armstrong Company for this Magazine.

The Manchester Exhibition opened by the Prince and Princess of Wales in May last, exhibited to the world one of the finest and most valuable collections in the kingdom of steel castings for both peace and warlike purposes.

From a combination of circumstances during the last thirty years, steel has entered largely into the manufacture of both the field artillery and heavy ordnance used in the British service.

From the epoch when Condé asserts that cannon were used in Spain by the Moors in 1118, in the attack on Saragossa, and against Gibraltar by Ferdinand IV. in 1306, to the memorable sieges of Gibraltar in 1781-82 (when 1000 pieces of cannon are said to have been brought to bear against the fortress)—there is no mention of steel artillery. Even in the Crimean War. the siege-train was exclusively composed of cast-iron guns, including the four Lancaster shell-guns that were brought to bear against the fortress of Sebastopol. The Lancaster shells, of wrought-iron or steel, like in appearance to champagne bottles, were very costly affairs, and the expense of "passing the bottle" to the enemy used to cost John Bull £5 each time they were sent whistling through the wind.

The gun steel used in the Royal Gun Factory, and the Elswick Factory is practically of the same nature as that used in France and Germany. It is a ductile material—breaks under a tensile strain of 30 tons per square inch in the soft state, raised to 45 tons when

hardened after plunging, at a heat of 1,450° Farenheit, into a bath of cool oil.

It contains a chemical compound of from 0·25 to 0·5 per cent. of carbon, and from 0·8 to 0·5 per cent. of manganese, each ingredient adding materially to the strength. The French go as high as 0·5.

The 68-ton M.L. gun is now made to endure for a long period of service by having the rear half of the bore lined with a thin steel tube, extending from the powder-chamber—the seat of the projectile—to the lower part of the bore affected by the gas of the explosion of the gunpowder.

The celebrated "Cannon King," Herr Krupp, has lately died. He discovered the art of casting steel in large masses, and sent an enormous block to the Exhibition of 1851.

He supplied a number of gigantic siege-guns to the Germans for the siege of Paris, but as a good many of them burst during the firing, the guns, like the Control Department in the Battle of Dorking, did about as much harm to the owners as the enemy.

Herr Krupp, however, manufactured other steel articles than guns, and is said to have left his heirs a fortune of £15,000,000, and his colossal factory at Essen employs 11,000 workmen.

In the Bessemer process, for which a patent was taken out in 1856, the semi-fluid steel was compressed by two distinctly different methods.

1st. By gaseous pressure in the strong close chamber containing the mould.

2nd. By forcing by hydraulic pressure a plunger into the steel fluid, held in an iron mould, connected with a hydraulic press.

Special works for the manufacture of Bessemer steel have been established at Sheffield by Peach and Steel Company, Limited. The process I have ascertained to be as follows :

The pig iron used is obtained from the large blast furnaces on the west coast of Cumberland. This is subsequently re-melted in cupolas, and taken in the fluid state to the Bessemer "Converters," to be turned into steel.

This is done by passing cold air through the molten metal for a space of some fifteen or twenty minutes, a chemical action going on which drives out all the impurities from the iron. When this is done, a proportion of iron called spiegeleisen, containing carbon and various percentages of manganese (according to the steel required to be manufactured) is added, to replace these elements which have been eliminated during the process of conversion.

The steel is then poured from the converter into a ladle, whence it is transferred into moulds varying in size according to the size of "ingot" required to be cast.

The ingots are then treated in a variety of ways.

Some are rolled into rails varying from the light 40 lb. rails used in India and abroad, to the heavy 80 to 86 lb. rails used by the home railways. Some are also rolled into the light 14 to 20 lb. rails used for transport railways and colliery purposes.

In addition to rails, there are also produced steel girders, round and square bars, axles for railway carriages and waggons, and springs and spring steel for the same purpose.

Steel forgings are also produced for use by engineers and others in the production of machinery.

Some years ago, Sir J. Whitworth & Co. made about 3,000 experiments with steel cylinders, to test the value of oil hardening. The results of the experiments conclusively proved the superiority of the oil-hardened steel cylinders.

Many of Sir W. Armstrong's guns have been made by the following process:—A gun consisting of an inner tube, then a wire or riband coil, and, lastly, an outer tube or jacket, or layer of tubes, put on with shrinkage. Later guns had wires coiled under tension on the inner tube, then a similar coil upon a layer of wire fixed longitudinally, then another layer, and so on to the end; the whole completed by a layer of tubes put on by shrinkage. Altogether a total of about 26 layers, wires, or ribands.

At Woolwich, a 10-in. howitzer, and a 9·2-in. gun have been constructed—using wire on the first system adopted by Sir W. Armstrong & Co., with an outside steel tube or jacket shrunk on.

The favourite American system is said to be a steel inner tube, on which is shrunk another steel tube, or jacket, and a coil of steel wires under tension fitted on, up to the trunnions.

Russia is said to be alive to the importance of the system, and much has been done to develop it in France.

The quantity of powder used, and the system by which powder is constantly shifted, tends to bruise and break it, and if the gun is in a hot climate, the powder would not only be liable to be heated, but would be used in a gun at still greater temperature; if, in the heat of action, firing were suspended for a short time, the powders would be raised to such a high temperature, that, when the gun was fired, it would suddenly explode in the bore and burst the gun.

The increasing twist, known as the Woolwich system of rifling, has the serious defect of bringing up, as it were, the shot, by the sharp twist in the rifling, at the thin part of the gun at the instant it has attained a high velocity, a method apparently liable to twist the neck off the gun.

Sir Joseph Whitworth & Co. successfully use the Whitworth fluid pressed steel for the cylinder lines, hollow propeller shafts, and crank shafts, for the use of

Her Majesty's ships. The Company claim that by their system of hollow forging, a hollow shaft of less weight than a solid one can be forged stronger. The Whitworth system of forging by means of the hydraulic forging press, is said to surpass all present plans of forging under the steam hammer.

There seems no reason to doubt that the Whitworth method of manufacturing with hollow forging reduces risk to a minimum, as shafts can be readily examined inside and outside, and, if necessary, tested, like gun barrels, by hydraulic pressure.

A recent, though unpremeditated, but costly experiment, has been made at Portsmouth by the collision between the *Ajax* and *Derastation*, demonstrating in a practical manner the effect of ramming at sea. The *Ajax* rammed the *Derastation* almost at right angles. The second skin plate below the armour on the port side was indented about a foot wide, and an inch deep, and the inner skin of the double bottom was slightly injured. The comparatively trifling nature of the injury bears testimony to the value of armour-plating, and contrasts favourably with the fact that, by the force of the collision two considerable holes were punched in the unarmoured end of the starboard bow just above the water line.

The injury was not too great to be temporarily repaired by the ship's artificers, and by the means at hand, until the vessels could be docked in due course.

Possibly, the makers of the armour took into consideration the test that might be applied, and made plates which stood well under the conditions, not sacrificing the power of holding together for the possibility of some other condition keeping out the fire of artillery.

In the Soudan campaign, armour-plated trains appear to have been successfully used by the British forces. The armour-plating on the carriages successfully defied the rifle-fire of the enemy, and afforded shelter and security to our soldiers behind them.

I understand this armour-plating is the result of the scheme said to have been put before the War Office some fifteen or twenty years ago by Thomas Smith, Esq., of Drosford, Hants (once high sheriff of that county), when nearly ninety years old. He is the author of *Diary of a Huntsman*, and was mainly interested in getting up the Hants Light Horse, which was perhaps the first mounted Volunteer Corps. His scheme was to arrange for armour-plated trains, to be kept behind the parapets along the south coast of England, at certain specified and vulnerable positions, so that they could issue forth at certain and irregular intervals, and open destructive fire upon an invading force, and, if heavily pressed, return to the shelter whence they came. The late General Blanchard, R.E., brought forward a scheme when the writer joined the service in 1855, at Chatham, and which was experimentally tested and

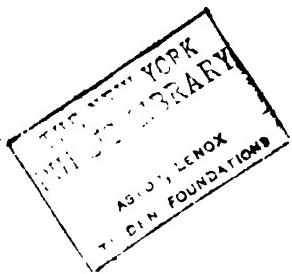
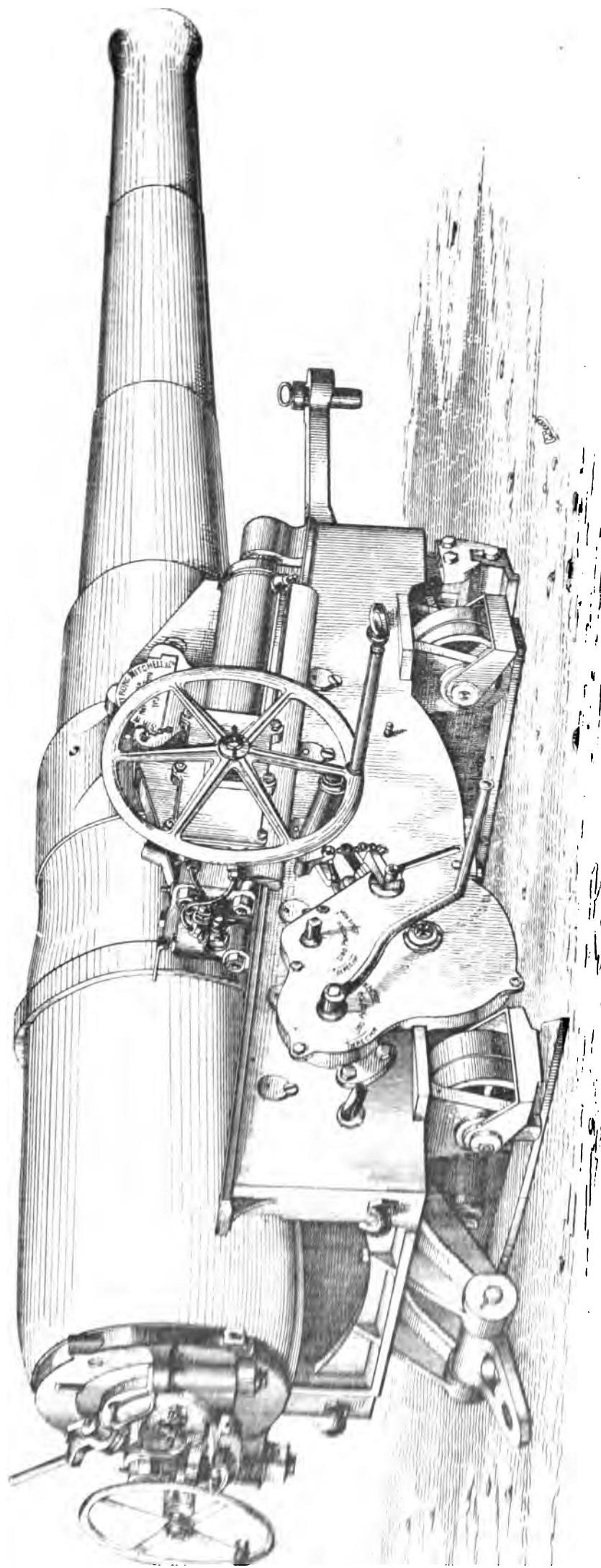


PLATE. 4.



8 INCH BREECH LOADING GUN ON VAVASSEUR
NAVAL BROADSIDE MOUNTING-AS SUPPLIED TO THE
CHILIAN IRONCLAD "BLANCO ENCALADA".

found to be successful, of light steel armour-plating about the width and height of a man, fitted in the rear with cords and straps, so that a soldier could put it on him, on the principle of a shield; then advance from 50 to 100 yards in front of the parapets, and go into the open, and, under cover of the shield, dig rifle-pits or shelter trenches. I am not aware whether the experiments received—as they deserved—the testing of actual warfare, but I cannot but think, having been permitted to assist at the experiments, that the idea is a valuable one, and might, if brought into practical use, be of great service in saving life in a campaign.

Our illustration is taken from a photograph of an 8-in. Armstrong B.L. gun, mounted on a Vavasour Broadside Carriage, and kindly supplied by Lord Armstrong.

The barrels of the Lancaster rifles, which were supplied for many years to the corps of Royal Engineers, are made of block steel, welded and rolled, and when in solid are drilled to the necessary calibre, and then bored ready for rifling.

The rifling bit, or steel cutter, used for this purpose is carried on a suitable frame, and cuts a bold groove on one side. The barrel is then reversed, and another groove cut on the opposite side without any rib or edge, and thus giving the interior of the barrel an oval or elliptic turn; the pitch of the spiral twist always increases from the breech, and gaining rapidly towards the muzzle, combined with more or less depth of groove from breech to muzzle, renders the accuracy of shooting with this rifle highly reliable.

A new invention in iron and steel work, which promises to be of material service, has lately been patented. It consists in the use of basic slag in place of sand for the bottoms of heating furnaces.

Fortunately for successive Governments, who have ignored the recommendation of the Royal Defence Commission of a quarter of a century ago to provide an Inland Arsenal, the patriotism and energy of Lord Armstrong (now, unfortunately for the Nation, three score years old), has provided Great Britain with a supplementary arsenal at Elswick. These works are influencing the military progress of our own country in no ordinary degree; and the Italian Government are said to have made arrangements with his Lordship to have an arsenal near Naples on the lines of the Elswick factory. This establishment on the northern bank of the Tyne, has developed Engineering resources of a high order. Excepting the manufacture of gunpowder, war vessels completely equipped for active service can be produced at this factory.

Through the courtesy of Lord Armstrong and the Directors of the Armstrong Company, I was kindly shown through the Elswick factory, where the field and heavy Artillery both for land and sea service are

manufactured. They range from the 1 lb. Hotchkiss gun to the 110-ton Armstrong. Bridge work, ship-building, dock-work, the manufacture of hydraulic cranes, and other machinery, are also simultaneously carried on in factories extending over many acres, and employing over 13,000 work-people.

Enormous blast-furnaces produce iron and steel of high qualities from the hematite ore (comparatively free from sulphur and phosphorus) imported from Spain, Elba and Sweden.

In a Siemen's furnace the metal is melted by gas and air ignited, after passing on through separate channels, and in eight to ten hours a molten mass of practically pure iron is produced. This is subsequently "cooked" with spiegeleisen (ferro manganese) until steel with the proper proportion of carbon is produced. The metal is finally tested, chemically and mechanically, in its liquid state, the operator draining off a small quantity in a spoon through a furnace door.

When the steel has reached "perfection point," the large travelling casting ladle comes into use, and the "charge," tapped by thrusting an iron bar through a small orifice, flows into the ladle. This system prevents accidents, as the metal flows from the bottom, but without a rush. The ladle is 6 feet in diameter, 5 feet deep, and will hold 20 tons.

Within the last few years a steel has been obtained that combines such toughness with the required "gun-metal elasticity" that guns can now with safety be made entirely of steel.

A huge ingot of steel is taken to form the inner cylinder or gun barrel, and a disc having been cut off each end, it is handed over to the tender mercies of the boring machine, if the "tester" pronounces the discs to be of proper quality.

An hydraulic testing machine tests pieces about four inches long, registering the yielding under an elongated strain, and the breaking strain. If the steel will bear a tensile strain of 15 tons to the square inch, and breaks at 36 tons to the square inch, the construction of the gun proceeds. The rough boring occupies more than a week, and the barrel is toughened by being dipped in a pit of heated oil. After the barrel has been turned on the outside in the lathe, the gun becomes a succession of steel cylinders shrunk on over each other—operations which necessitate the attainment of great nicety and accuracy. By this arrangement, the compression on the inner cylinder is increased by the grip of the successive layers, and prevents the strain following the explosion of the gunpowder on the inner cylinder being too great for the gun as a whole.

The rifling of the gun takes at least a month. The cutter's united movements are regulated by a rack and pinion as the pitch of the rifling is progressive. The

cutter makes only one turn in every 45 feet. Immense care has to be used in this beautiful and costly operation, as a trifling departure from the true course would spoil about £15,000 of already executed work. After the rifling, the powder-chamber and the breech-screw have to be fitted. The chamber is bottle-shaped, and is an enlargement of the bore.

The breech-piece is connected with the gun by an ingenious hinged platform. In the 110-ton gun it runs out from the gun on a sliding tray. The breech screw is fastened on the "interrupted screw system," that is to say, the breech plug and screw are cut into corresponding screw grooves, forming a clever lock. The closeness of the fit to avoid escape of powder-gas is essential, and great skill is needed in carrying out this part of the work, the interior of the bore being examined from time to time by the Electric Light.

In the Elswick-made guns, escape of powder-gas is entirely prevented by an elastic steel obturating cup, perfectly flat on the rear surface, and bolted at the front of the slightly coned breech screw. When the gun is fired, the pressure of the powder-gas forces the cup against the breech screw, and its flange, bearing on a copper cushion let into the gun, renders an escape of powder-gas impossible. When the projectile leaves the gun, all pressure, of course, ceases. The principle is so excellent that it is adopted in the British service.

Finally, the guns are fired and proved, usually at the Company's range, near Ridsdale, Northumberland, and impressions are taken of the interior in gutta percha, the electric light being used to light up the interior.

A "close cartridge" invented by the Company is used to fire the gun, the cartridge being exploded either by a hammer pulled by a lanyard, or by electricity.

A special feature, and a most interesting one, is the production of the breech-loading 3 and 5 ton guns on the Elswick hydro-pneumatic disappearing carriage, which, like a Jack-in-the-box, jumps up, fires over a parapet, or the surface of the ground, and then vanishes under cover of its steel shield into the masonry pit below, where the gun is charged for another shot. By this admirable contrivance the gun and its small detachment (only four, as compared with the present

service, nine gunners) virtually present no mark to hostile fire.

These guns, with the steel armour or shield, are such an ingenious contrivance and remarkable arrangement, that I think it ought to enter largely into the armament of our sea-coast fortresses, and perhaps also into the armament of some of our ironclad fleet, both at home and abroad, especially as the approximate cost is only £3,000.

Illustration No. 1 shows an 8-in. Armstrong B.L. gun mounted on the disappearing carriage, loaded and ready to fire.

Illustration No. 2 shows this gun recoiled, after firing, into its pit below under cover of the shield and ready for loading.

By means of mirrors above and below, fixed at an angle of 90° to each other, the gun is laid on a distant object by No. 1 in perfect safety.

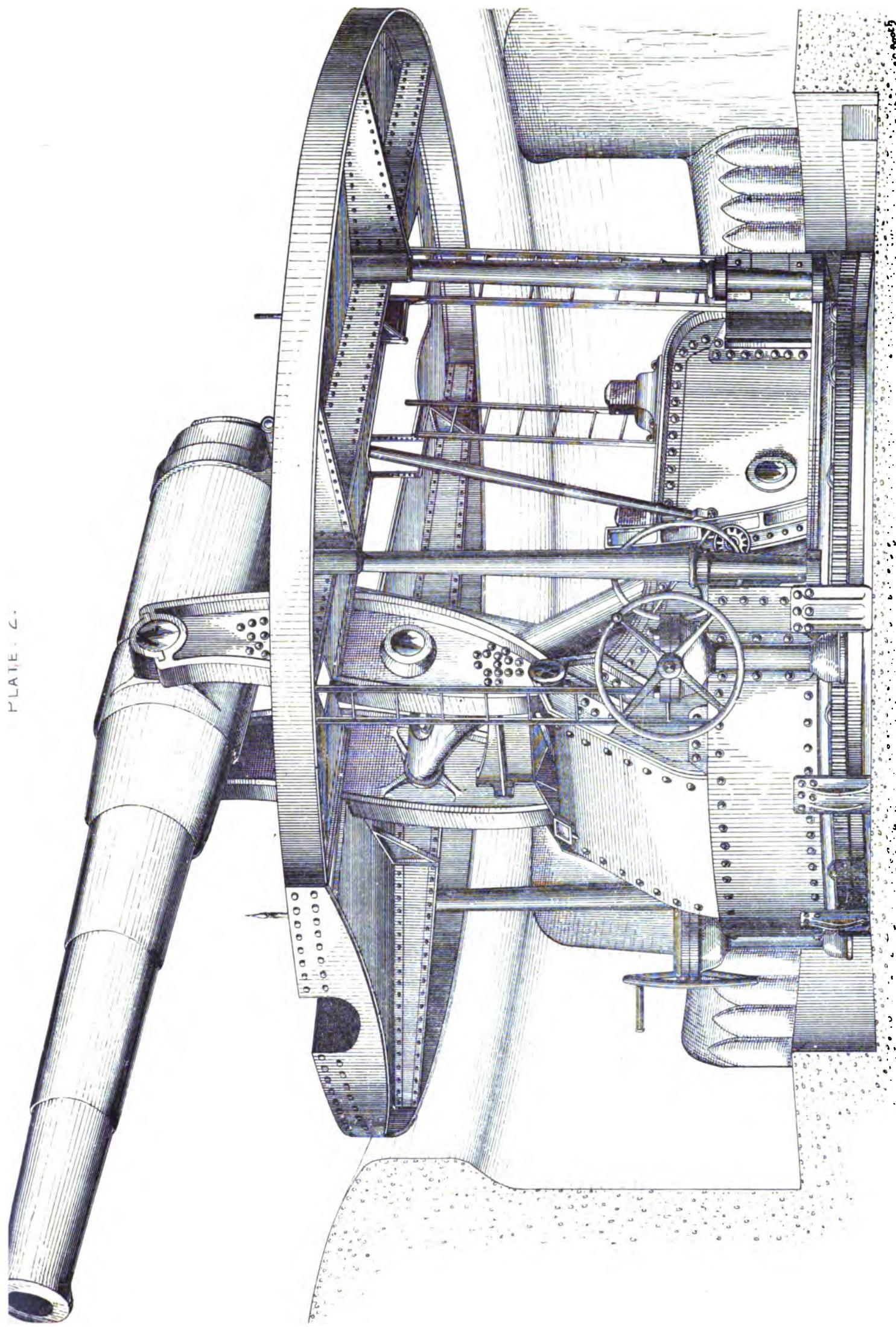
The gun detachment of only four (against the present service nine) readily traverse the gun and shield, and the necessary elevation is given to the gun before it appears automatically above the parapet. The gun rises into the firing position in a quarter of a minute, and is fired either by electricity or by a long lanyard, the recoil compresses the air charge in the powerful cylinder below, ready for a new lift after the gun has been loaded. A few gallons of water, combined with compressed air, is the virtual sum total of the hydraulic arrangement.

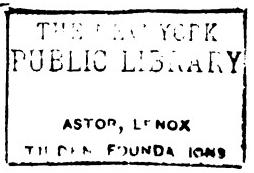
Elswick is really now an arsenal and dockyard combined. Its extent, resources, productive power, have to be seen to be believed. An army of officials and clerks in an extensive range of offices supervise the details of ship-building, cannon-making, and hydraulic fitting in this wonderful establishment. Men experienced and eminent in their respective spheres are employed. The invaluable service rendered to the nation, and the system of administration, forms a striking contrast to the remarkable system apparently often pursued by our own War Office, which, fortunately for the nation, has been recently most ably exposed by the Right Hon. Earl Dunraven in the House of Lords, and by Col. Hughes-Hallett, Mr. Hanbury, and other independent members of the House of Commons.

AN 8-INCH B. L. ARMSTRONG GUN MOUNTED ON THE ELSWICK HYDRO-PNEUMATIC DISAPPEARING CARRIAGE. THE GUN IN THE FIRING POSITION.
View from the interior of the Battery.

600005

PLATE C.

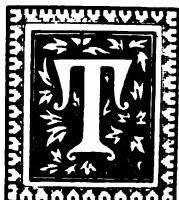




THE TRANSCASPIAN RAILWAY.

By C. J. L'ESTRANGE.

VII.—THE METHOD OF WORK.



HE Russian personnel occupied in the construction and working of the Transcaspian Railway is composed as follows :—

1. The Chief-in-Command — Lieutenant-General Annenkov.
2. Two Civil Engineers detached from the Russian Board of Works—MM. Tschernikovsky and Vjasemsky.
3. The Chief Traffic Inspector—Prince Chilkof.
4. An Inspector, Civil Engineer, or Sapper Officer for every 25 versts of the railway.
5. Two battalions of railway troops, of 16 officers and 1,000 men each—under Colonel Andrajef and Lieut.-Colonel Brunelli.

Of the railway troops, the first battalion is employed in working, and the second for the most part in the constructing, the line. Since Merv was reached and the rapidity of construction reduced, a considerable number of men belonging to the second battalion have been detached for working the newly-opened stretches of the railway, thus leaving about 600 for carrying on the extension. The station-masters on the railways are principally retired officers of the army, a few are civilians, and a few officers on the active list. The guards, engine-drivers, and porters are all soldiers.

The rough and heavy work in the construction of the railway—for instance, the formation of the embankment and the transport of material from place to place—is carried out for the most part by Asiatic labourers. About 400 Russians were brought from Smolensk and Kieff, but the experiment was not a success. The Asiatics form, practically, a *corps d'armée* 30,000 strong, organized on a strictly military basis. They consist of Tekke Turkomans, Persians, and Bokharans, forming companies of 50 or 100 men, under discharged Russian soldiers, who, in their turn, are commanded by officers.

The preliminary operations, including the survey of the country, the construction of the railway bank, and the transport of the materials from Russia, were pushed on with such rapidity that in the beginning of July all was ready for laying down the rails. In this work, one company of the 2nd Transcaspian Railway Battalion was at first employed; but gradually, as the speed of construction was increased, the services

of two, and last of all three, companies were called into requisition. At this period, 700 men were employed in laying down the rails alone; they were assisted by 200 Persians, skilled in the use of spade and pick, who carried the rails and sleepers to their positions, and gave the final touches to the railway bank. About 700 trucks—400 drawn by horses, and 300 hundred by camels—were also employed for carrying the heavier metals from place to place.

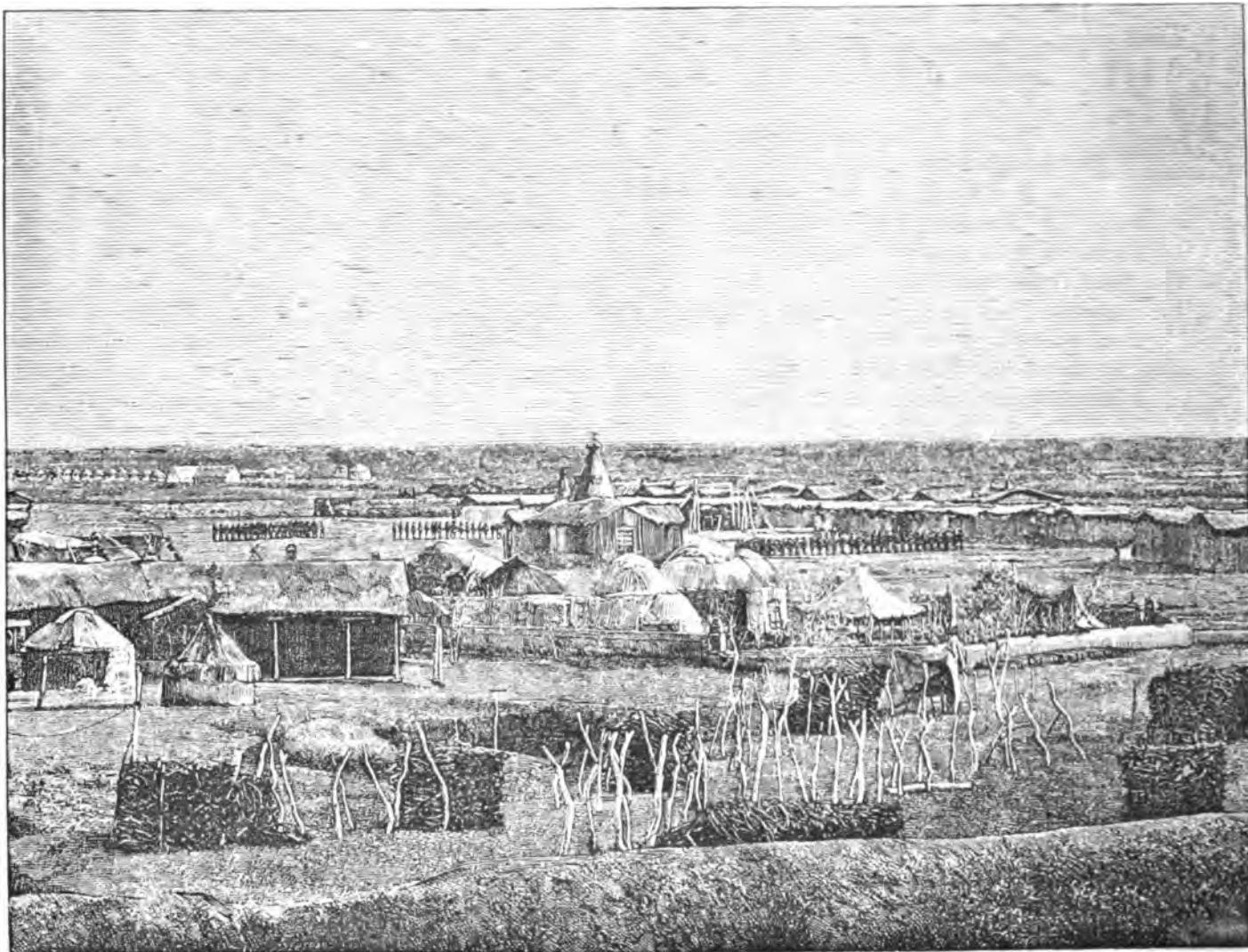
Both the troops and workmen engaged in this branch of the work are accommodated in a long railway train, specially fitted as a barrack. This original and extremely serviceable arrangement enables the working party to remain constantly on the spot at which their services are needed. No time is lost in coming and going for rest or meals. The cars of which the train is composed are two stories high, and comprise living-room, bedroom, workroom, kitchen, water-reservoir, pantry, and store-room. The car allotted to the chief in command consists, in addition to these compartments, of an office, provided with maps, plans, and all requisite instruments. Next to this car are the compartments of his immediate assistants. The officers are accommodated in another car with a large mess-room and separate cabins. The train originally consisted of 45 cars, but has been reduced to 34, since the pressing necessity for speed no longer exists. It comprises: 4 two-story cars for the officers, 1 for the officer's mess, 1 for the officer's mess kitchen, 3 kitchens for the troops (1 per company of 200 men), 1 hospital car, 1 telegraph car, 1 smith's car, 1 commissariat car, 1 reserve car for utensils, and 20 two-story cars for the troops (600 men), and workmen (300 men). The Asiatic labourers occupy separate quarters. The cars built for habitation are 7 metres long by 3 metres broad, and accommodate 25 men in each story.

The manner in which the work was carried on, week after week, and month after month, may be sufficiently understood from the record of a single day. The men engaged in the higher branches of the work—fixing the sleepers, laying down the rails, and “finishing off” the embankment—are divided into two detachments, each of which works six hours per day. The first gang works from six in the morning until noon; the second from noon until six at night. This rule is only broken in exceptional cases, when considerable difficulties are encountered, or when extreme

rapidity of construction is deemed necessary. When, for instance, a station, dépôt, or junction is built, it is customary to work overtime in order that the average weekly or monthly progress of the railway may be maintained. In these cases, both detachments work ten hours per day, with an interval of rest during the hot hours of the afternoon.

A goods train arrives every evening, provided with materials necessary for the next half-day's work. It

sleepers are next placed in position by the aid of a small transportable railroad, four and a half versts long, running parallel with the railway bank. The detachment engaged in fixing the sleepers always works a considerable distance ahead of the column employed in laying down the rails. The latter are brought to their places by small trucks running on the railway itself, and capable of carrying from twelve to sixteen rails each. So soon as the contents of one of these trucks



THE MILITARY ESTABLISHMENT AT KRASNOVODSK.

consists, as a rule, of forty-five trucks, and carries all requisites for laying down a stretch of two versts (about $1\frac{1}{2}$ miles) of rails. The materials are unloaded immediately behind the barrack-train—the rails on one side of the embankment, and the sleepers on the other. So soon as this is finished, the goods train returns for a fresh supply, and the barrack-train is shunted to a point somewhat behind the position at which the unloading took place, thus leaving clear the rails in front for the operations of the workmen. The

has been discharged, it is tilted upright on the embankment to make room for the next. If no considerable difficulty has been encountered, about two versts of railway are usually completed by noon; and the barrack-train takes up a position at the extreme end of the newly-finished line, bringing up the second working party, and supplying rest and refreshment to those coming off duty. In the meantime, another goods train has arrived in the morning, with the necessary materials for the afternoon's work. The

operations in the second half of the day are carried out in exactly the same manner as those of the first. At six o'clock two more versts are usually finished, and the barrack-train remains during the night at the far end of the railway, in readiness for the work of the following day.

If through any accident or, as frequently happens, through a Mahomedan holiday, the goods train fails to arrive, no cessation of work necessarily follows. In this case, material is drawn from the dépôts along the line, or from the barrack train itself, which carries a considerable reserve of material. Moreover, to guard against any serious interruption of the supply from Russia, the dépôts at Michailovsk and Merv contain an immense reserve store of rails and sleepers. By means of this thoroughly systematized method of work, from $3\frac{1}{2}$ to $4\frac{1}{2}$ versts ($2\frac{1}{2}$ to 3 miles) of rails were laid down per diem. During the March and November rains, work in the open was necessarily interrupted; and the floods not only suspended operations, but did very considerable damage to the railway bank. Despite these interruptions, and an interval of rest during the hot season, the railway between Kizil Arvat and Tschardshui—a distance of 768 versts (510 miles)—was constructed and opened for traffic in eighteen months.

VIII.—THE COST OF THE RAILWAY.

ONE of the most noteworthy facts in connection with the construction of the Transcaspian Railway, is the extreme cheapness with which the work was carried out. Captain M. E. Boulangier, of the French Engineers, draws especial attention to this subject in his official report on the railway, and strongly recommends that the French Government should in future adopt the Russian system in the construction of colonial railways.

Between Michailovsk and Kizil-Arvat, the railway was built under exceptional conditions, in the presence of a vigilant and untiring enemy. The workmen were harassed night and day by Tekke Turkoman attacks; and everything contributed to increase the cost of the enterprise. On the extension of the railway, no such difficulties were encountered. The work was carried on in time of peace and under normal conditions; and the most trustworthy data are, therefore, to be obtained from the statement of expenses between Kizil Arvat and the Oxus.

The total cost of the railway proper, excluding rolling stock, between these two places, was in round numbers, 21,000,000 roubles, or £2,100,000. This represents an average expenditure of 27,000 roubles, or £2,700 per verst—about £4,000 per mile. The railway between Tiflis and Baku, on the other hand, although much nearer to civilization, and constructed through a much

more favourable country, cost 70,000 roubles per verst, or £10,500 per mile.

The extraordinary cheapness of the Transcaspian Railway may be attributed to several causes:—

1. The able administration of General Annenkov, who is generally admitted to have been the right man in the right place.
2. The construction of the railway by the State without the intervention of contractors.
3. The employment of military labour. The privates of the railway battalions receive from 5 to 10 roubles (10s. to 20s.) per month; the skilled workmen and artificers, 40 to 100 roubles (£4 to £10). Discharged soldiers employed on the railway receive £10 per annum.
4. The enlistment of native or Persian labourers for throwing up the embankment and similar work. These men receive from £1 16s. to £2 per month, and are found extremely good workmen. A Turkoman receives 1s. per diem; the Persian is somewhat dearer; but, in the opinion of General Annenkov, does not work better. The Bokharan labourers receives only 22 copecks (about $5\frac{1}{2}$ d.) per diem. Much of the excavation is done by the piece; a system which acts extremely fairly, owing to the absence of hard or rocky soil.
5. The absence of mountains, valleys, precipices, lakes, or formidable natural obstacles of any kind, with the exception of the shifting sand.
6. The large distances between the stations.
7. The system of construction, by which each section of the railway was opened for traffic so soon as the rails were laid down, without awaiting the completion of the stations and other accessories.
8. The fact that, in consequence of the absence of large towns or estates along the railway, the delay and expense usually involved in the acquisition of private property were avoided.
9. The rapidity of construction, frequently a cause of expense, but in this case, owing to the great number of men employed, effecting an enormous saving in pay and allowances.

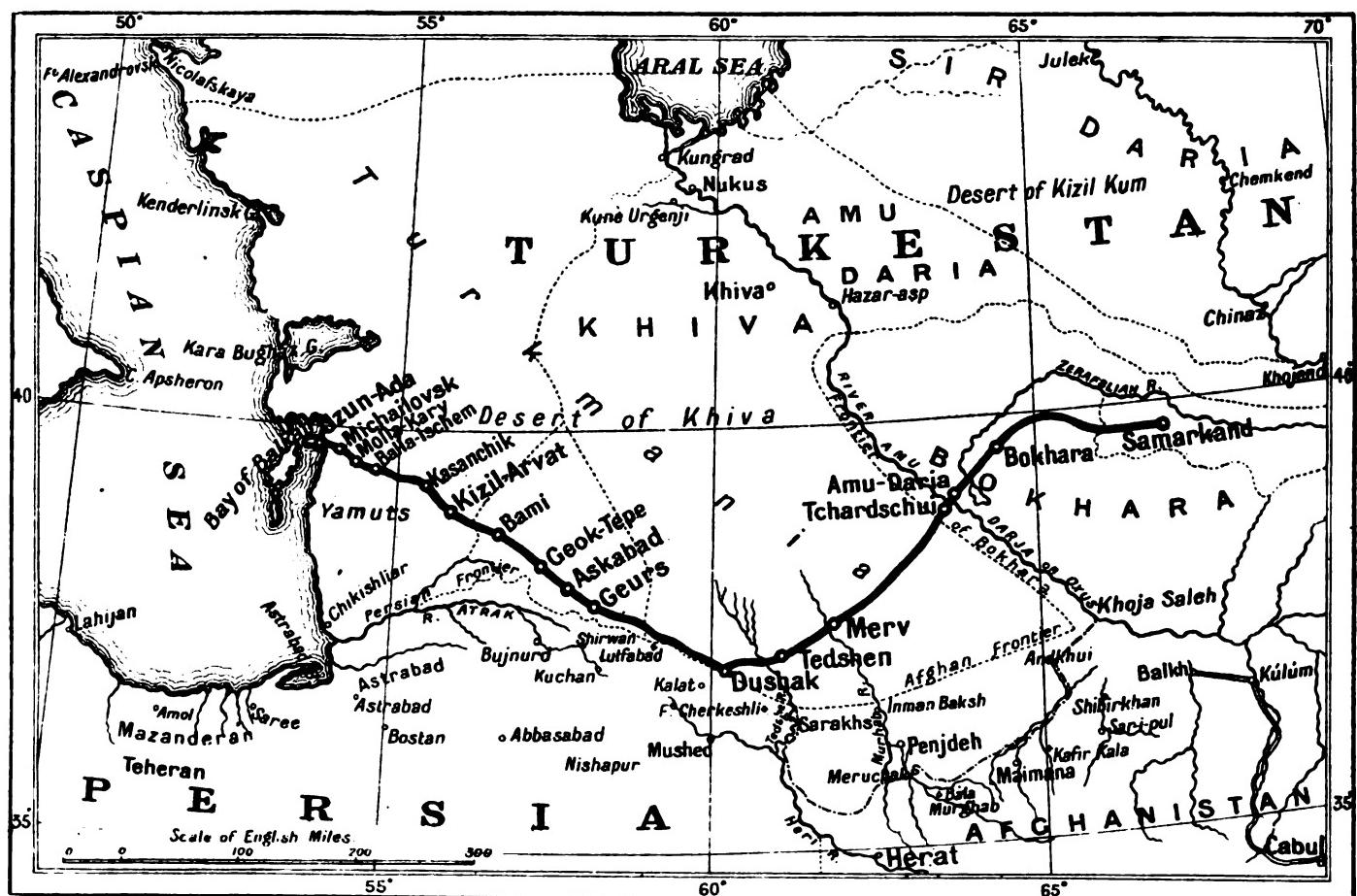
IX.—THE MATERIEL OF THE RAILWAY.

THE rolling stock of the Transcaspian Railway consists, at present, of 88 locomotives and 1,410 cars and trucks. The engines, without tender, weigh 30 tons.

Between the sea and Askabad, the mean speed of passenger trains is 30 kilometres (22 miles) per hour when in movement; but this is reduced by stoppages to an average of 25 kilometres (18 miles). The permanent way is constructed with sufficient solidity to bear a much greater speed than this; but it is not usual for

Russian trains to travel with even moderate rapidity. The mean speed decreases as the Oxus is approached. Between Askabad and Merv it is 25 kilometres (18 miles); beyond Merv, only 15 kilometres (10 miles) per hour. Each train is composed of 50 cars. Two passenger trains per week now run to and fro between Merv and the Caspian, the whole distance of 515 miles requiring 40 hours. On the remaining five days of the week, when passenger trains are not run, carriages are frequently attached to goods trains, which are for the most part engaged in carrying material to the extreme end of the line. As yet, of course, the

have been found on the island of Tscheleken, near Uzun Ada, within eight miles of the sea; on a hillock in mid-desert, twenty miles south-west of Balla-Ischem; at Dushak, and at Penjdeh. Captain M. E. Boulangier, who has made a thorough study of the whole railway, reports that the use of the petroleum residue is entirely without danger, while it possesses the immense advantage that the fire can be extinguished instantaneously by simply turning a tap. From an economical point of view, the new fuel is one of the most satisfactory heating materials ever discovered. A pood (36 lbs.) of petroleum waste costs at Baku 1 copeck, or about a



MAP SHOWING COURSE OF TRANSCASPIAN RAILWAY.

traffic receipts of the railway are almost infinitesimal; and the Russian Government must look forward, for many years to come, to a heavy loss on the working of the line.

The difficulty of finding suitable fuel has been satisfactorily solved by utilizing the waste products of the petroleum distilleries at Baku. There seems at present no likelihood of the supply running short at Baku; but if this were to happen, Russia possesses a vast reserve of oil in her recently acquired Asiatic possessions. As Mr. Charles Marvin has pointed out, extensive oil-fields have been struck along the railway. Large deposits

farthing; at Uzun Ada, 8 copecks, or 2d; and its value as fuel is double that of coal, weight for weight.

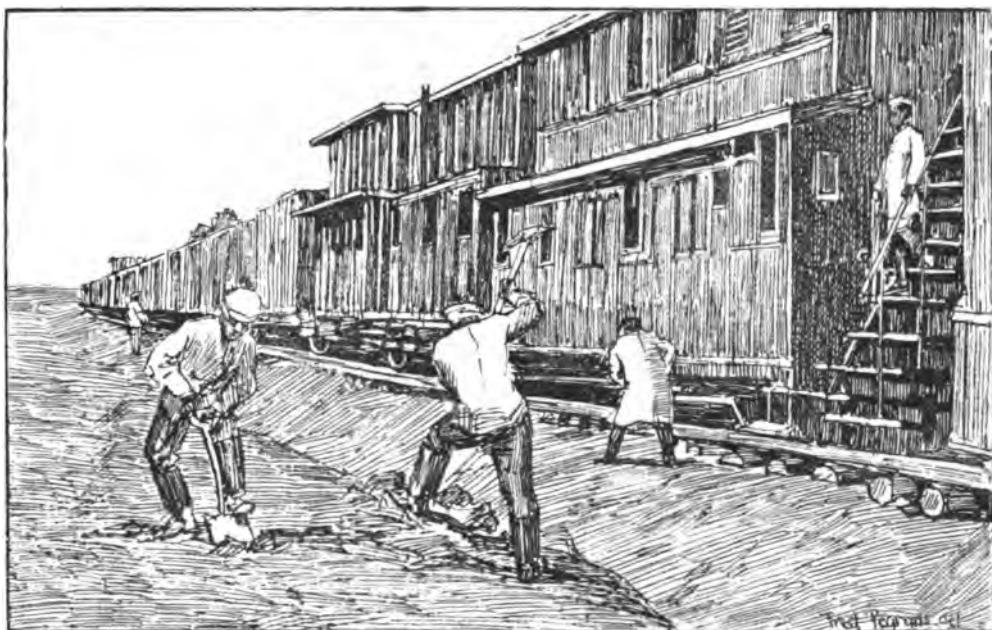
The petroleum is carried, like the water-supply, in large cisterns, capable of holding about 10 tons each. The tenders carry sufficient fuel and water for a distance of 90 miles. In some cases, however, the north-easterly winds, which blow with extreme violence through Central Asia, and especially around the Caspian, bring the train to a complete standstill. It frequently happens that the normal supply of fuel suffices only for a run of 20 miles against a head-wind of this kind; and instances have occurred in which

trains have been blown from one station to the next. All the larger stations along the line are provided with reservoirs for the storage of petroleum. Askabad alone has a reserve of over 300 tons.

In a land in which wheeled vehicles are unknown, and highways, even well-marked caravan-routes, or artificial roads of any kind, do not exist, there is necessarily no need of the level crossings, bridges, tunnels, or similar appliances for securing the public safety which are indispensable in a thickly-populated district. All travellers in Turkestan are mounted, and transport is effected by camels, pack-horses, mules, or asses. The caravans march troop-wise across country, and only adopt single or double file in narrow defiles. Under such conditions, the railway watch-houses, usually placed at intervals of 5 versts, or less, on the

serious damage. In this daily tour, every two men are provided with a horse, which they ride alternately.

The breadth of gauge is 1·54 m. (5 ft.), as on the railway lines of European Russia. The rails, in common with almost all other material used in the construction of the line, are of Russian manufacture. They are made of steel on the Vignole system, and cost considerably more than their value, owing to the artificial encouragement of the iron and steel manufactures in Russia. The Government purchases a fixed quantity of rails annually from each of the native manufacturers, and previous to the construction of the Transcaspian railway, the supply exceeded the demand. In 1885, therefore, there was a vast reserve of material in store. The rails are transported from St. Petersburg to the Volga by the interior canals of Russia, and are carried



THE BARRACK TRAIN.

lines of European Russia, have been considered unnecessary. In order, however, to ensure the safety of the railway, barracks have been built along the line from Uzun Ada to the Oxus, at intervals of 12½ versts from each other. These buildings are occupied by several railway officials and workmen, and are provided with small towers similar to those formerly used by the Persians as refuges against the Tekke-Turkoman raiders. Owing to the extreme flatness of the country, and the clearness of the atmosphere, the watchmen in these towers are able to see immense distances; and under favourable conditions nearly half the interval between one post and the next is under observation. Moreover, two men from each barrack make a daily tour 6 versts up and down the line, for the purpose of clearing away obstructions, testing the rails, and reporting cases of

thence by the Caspian to Uzun Ada. Other supplies, furnished by the Donetz factories, are sent to the front by way of the Don, the Black Sea and Baku.

The sleepers, furnished for the most part by Northern Russia, are floated down the Volga on flat-bottomed boats into the Caspian. They cost, on the average, 3s. each, although in Russia they would scarcely fetch one-fifth of that amount. It is calculated that the expense of transport fully quintuples their cost. About 1,400 sleepers are required for each verst of the railway, or nearly 2,100 per mile. General Annenkov proposed that the sleepers used on the Transcaspian railway should be treated with creosote as a protection against the termite ants that swarm in uncounted millions in Turkestan and throughout Central Asia. His suggestion, however, was not adopted; and judging from the state of the

sleepers on the Batoum-Tiflis-Baku railway, Captain Boulangier concludes that those of the longer line will require renewal within a very short time.

The temporary bridges of the Transcaspian Railway are, without exception, constructed of wood. Permanent bridges of less than 14 feet span are also built of wood, but on a uniform plan. It is estimated that the smaller types of the so-called "permanent" bridges will last from ten to fifteen years without serious repair. The larger bridges are metallic, and despite the cost of transport, extremely cheap. A bridge 113 feet long, situated fourteen miles beyond Merv, cost only 18,000 roubles (£1,800), and leaves nothing to be desired as regards solidity and safety. The sole objection to these bridges is that the small span of each arch offers a considerable resistance to the sudden floods to which the rivers of Central Asia are liable.

The network of artificial watercourses by which the oases are intersected, and upon which their existence depends, was throughout a serious obstacle to the progress of the railway. These canals and ditches could neither be dammed up nor diverted without destroying the fertility of the district; and it was, therefore, necessary, especially in the Merv oasis, to provide an enormous number of small bridges. These average throughout the railway about three to the verst; and added considerably to the cost of construction.

The stations and depôts on the railway are built with a view to a large future traffic. Although they are by no means spacious at present, they are capable of considerable extension at a very small cost. They are divided, according to the area they occupy, into four classes. Among 1st Class stations are Askabad, Merv and Tchardshui; and within a few months Bokhara and Samarkand will be added to the list. Of the 2nd Class stations, Uzun Ada, Michailovsk and Kizil Arvat, and among 3rd Class, Kasanchik and Dushak are the most important.

The following will be, in a few months, the principal stations on the railway:—

Name of Station.	Distances in Versts from		
	Uzun Ada	Michailovsk	
Uzun Ada . . .	—	25	
Michailovsk . . .	25	—	
Molla Kary . . .	47	22	
Balla Ischem . . .	81	56	
Kasanchik . . .	173	148	
Kizil Arvat . . .	242	217	
Geok Tepe . . .	401	380	
Askabad . . .	447	422	
Geurs . . .	479	454	
Kashka . . .	568	543	
Dushak . . .	606	581	
Tedschen . . .	653	628	

Name of Station.	Distances in Versts from		
	Uzun Ada.	Michailovsk.	
Merv . . .	773	748	
Repetek . . .	936	911	
Tchardshui . . .	1,005	980	
Bokhara . . .	1,107	1,082	
Samarkand . . .	1,360	1,335	

In the optimistic semi-official accounts of the railway hitherto published, no estimate is given of the total extent of desert country through which the line runs. A careful computation shows, however, that, of the 1,000 versts between the Oxus and the sea, not less than one-half are waterless wastes of sand.

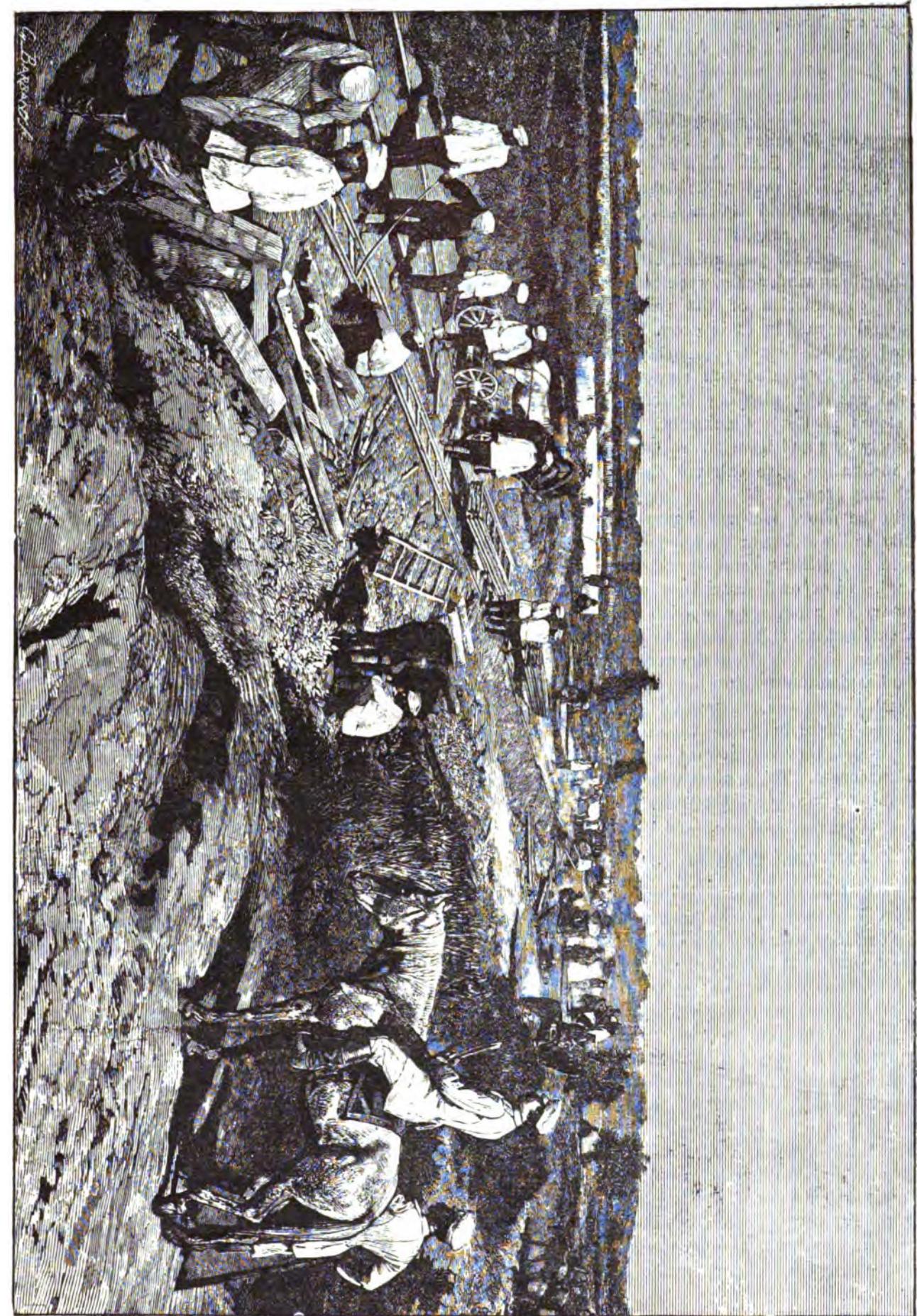
X.—THE WATER AND SAND DIFFICULTIES.

THE question of water-supply was one of the most troublesome problems which the constructors of the Transcaspian Railway were called upon to solve; and it cannot even now be regarded as even provisionally settled. An attempt has been recently made to increase the supply of fresh water by boring a number of artesian wells to a depth of from 60 m. to 80 m., but the result has not been by any means satisfactory. The state of the water-supply at present is briefly as follows:

—Uzun Ada is wholly without fresh water, and after repeated failures, the artesian borings in the neighbourhood have been abandoned. Michailovsk is supplied from a distillery capable of producing 500 cubic metres per diem. Molla Kary possesses an old well which fills in five hours and empties in two; and even this water can be used only to feed the engines. Artesian wells in this vicinity have also been abandoned owing to the prevailing saltiness of the springs. Balla-Ischem has a sulphurous spring furnishing from 40 to 50 cubic metres per diem, but the water is wholly unfit for drinking. Between Balla-Ischem to Kasanchik, a distance of about 60 miles, no water of any kind is to be found. Kasanchik has, however, two strong springs, one of which yields good drinking-water, the other is used for supplying the engines; but it contains so large a quantity of salt that the boilers soon become coated with a layer several millimetres in thickness. Between Kasanchik and Kizil Arvat, a distance of nearly 50 miles, there is, again, an absolute dearth of water. Kizil Arvat possesses a small stream furnishing a fluid which may be drunk after careful filtration. The stations between this place and Geok Tepe are supplied by conduits from a series of small water-courses rising in the adjacent mountains. Geok Tepe has a strong stream of its own; but Askabad, with its 8,000 inhabitants, has a wholly inadequate supply. From Artik (360 miles from the sea) to Merv (515 miles from the sea) water is plentiful;

THE TRANSCASPIAN RAILWAY.

87



LAVING DOWN THE RAILS

for those stations which do not possess springs or streams of their own are supplied by means of aqueducts and canals constructed at considerable expense. The whole of the Merv oasis is well irrigated; but the 110 miles of desert by which it is separated from the Oxus are waterless. Beyond the Oxus a great improvement takes place. After 40 miles of desert, a plentiful supply is obtained from the Sarafschan and its tributaries.

On the whole, however, the state of the water-supply on the Transcaspian Railway is anything but satisfactory; and no practicable suggestion seems yet to have been made for permanently improving it.

The drifting sand, again, was another serious difficulty in the construction of the railway. It was met in several ways. In some cases, as has been already pointed out, the country immediately around the line was plentifully treated with clay and water. A second method was the planting of indigenous shrubs on the slopes of the embankment. These plants have extremely long and tenacious roots; and if set at a suitable inclination, give extreme stability to the soil in which they grow.

Both the above methods, however, serve only to give solidity to the railway; they are useless as a protection against the drifting sand by which it is liable to be covered. In exposed districts, therefore, it was found necessary to construct a wooden palisade along the line, inclined at right angles to the prevailing wind. This blows, as a rule, from the north or north-east; and in the Caspian district, in which the railway runs almost due east, the screens are parallel to the line. Between Merv and Tchardshui, where the direction of the railway is north-east, they are inclined at a considerable angle with its course. It is, of course, apparent that they exist only on one side of the railway.

XI.—THE EXTENSION TO SAMARKAND.

THE work of construction was resumed on the 2nd May 1885, and pushed on with such rapidity that by the 27th November following Askabad was reached—a distance of nearly 140 miles from Kizil Arvat. The Achal oasis, through which this portion of the line runs, is separated from the Caspian Sea by a waterless desert, and steppes extending to Kizil Arvat. It is bounded and protected on the south by the Kopet Dagh, and is shut off on the north and east by the Kara-Kum desert. As a whole, the Achal oasis presents the appearance of a long oval, parallel with the mountains. Its extreme length, from Kizil Arvat to Geurs, is about 140 miles; but its breadth rarely exceeds ten miles. The oasis is well watered, and is inhabited by an exceedingly intelligent race. Askabad, the capital, is rapidly growing in population and prosperity, and its railway station is one of the largest on the line. The railway

in this district follows closely the route taken by the Geok-Tepe Expedition in 1880.

On the completion of the line to Askabad, a week's rest was taken; and the work was then resumed as energetically as before. At Geurs, twenty-six miles from Askabad, the edge of the Achal oasis was reached. The railway had then to cross an isthmus of sand, about forty miles broad, which, running due north and south, divides the Achal and Atrek oases from each other. The latter, about thirty miles long, is exceedingly fertile, and really forms part of the larger Tedschen oasis, from which it is separated by a few miles of sand.

On the 15th February 1886, the railway was opened for traffic as far as Kashka (80 miles from Askabad, 360 from Merv); and after a short interval, Dushak was reached, about 400 miles from the sea, and the approximate centre of the line. The railway had run, up to this point, along the Persian frontier; but on reaching Dushak it made an abrupt curve, leaving the confines of Persia, and striking north-east towards Merv and Bokhara.

At Dushak, the immediate strategical object of the Transcaspian Railway was secured, for the construction of a branch line to Sarakhs would offer no considerable natural obstacles. The extension to Sarakhs is certainly only a matter of time, as that place commands the valley of the Herirud and the road to Herat and India.

In the following March, long stretches of the railway embankment were destroyed by an unprecedented overflow of the Tedsche and Murghab rivers, but in April the damage was repaired, and the extension recommenced. In the Tedschen oasis the work was carried on under somewhat unfavourable conditions. The country is a fever-nest for Europeans, and life is rendered almost unbearable by millions of small flies. The soil is, however, exceedingly fertile, and fresh water is to be obtained in unlimited quantities. Machdum-Kedi Khan, once the most formidable enemy of Russia, now a Major in the service of the Czar, and Governor of the Tedschen district, gave every assistance in his power, and the railway, despite the unhealthy climate, made satisfactory progress. A temporary iron bridge was thrown over the Murghab, and the extension to Merv proceeded with without loss of time. The desert was again met between the Tedsche and the Murghab; but, despite this difficulty, the Merv railway station—500 miles from the sea—was opened with great ceremony on 2nd July.

The Merv oasis is richer than any portion of the country to which the railway had previously penetrated. The capital has been from time immemorial an important centre of trade; and, before its destruction by Jenghis Khan, is said to have numbered 700,000 inhabitants. Since its occupation by the Russians in 1883, the city has improved rapidly, both in wealth and

appearance. The oasis depends for its existence on the Murghab or White River, which rises in the north of Afghanistan, joins the Kushk at Penjdeh, and is swallowed up by the sand of the desert north of Merv. The river in summer varies between three and four feet in depth, but rises in the spring, often within a few hours, to fourteen feet, flooding the low-lying lands around. As a protection against these floods, gaps are made in the railway embankment for the escape of the water, which, in some cases, is led into channels of sufficient depth and breadth to carry off a large influx. The climate of the oasis is, on the whole, extremely healthy, although during violent storms the air is laden with particles of sand from the surrounding desert.

On 15th July, after a month's rest, the extension of the line to Tchardshui, on the Oxus, was begun. The distance between Merv and the Oxus is about 150 miles, more than two-thirds of which are desert. Nevertheless, the railway station at Tchardshui—670 miles from the sea—was opened on the 18th of December. On the same day, two steamers were launched for the navigation of the Oxus. These vessels are 149 ft. 6 in. in length, and 23 ft. in beam, draw 2 ft. 6 in. of water, and are driven by engines of 500 h.p. Their cost was about £40,000. In addition, the Russians will soon possess an extremely powerful war flotilla on the navigable reaches of the Oxus.

The completion of the railway to Bokhara and Samarkand now involved the passage of the Amu Daria or Oxus, an exceedingly difficult operation. A permanent solution of the difficulty has, indeed, not yet been found. The bed of the river, composed of clayey soil, is continually shifting its position. A bridge built now might in the course of a few years be left high and dry on the bank. This difficulty could, of course, be surmounted by a sufficient expenditure in embankments, but the Russian Government is not at present prepared to make any considerable outlay in this direction.

The problem has been solved provisionally by the adoption of a steam ferry of somewhat original construction. It consists of a large flat-bottomed steamer,

firmly connected with a cable, of which the other extremity is situated on a small island in the centre of the river. The railway cars are run on to the steamer; but the engines remain behind on either bank. During the first half of the passage, the ferry-boat, impelled by the current, describes a quadrant of which the cable is the radius: the second half of the journey is accomplished by the aid of steam, and the momentum remaining in the boat. This flying bridge costs only £10,000; will accommodate itself to any change in the bed of the river, and has an estimated carrying capacity of 1,000 tons per diem. The total weight of the material necessary for the extension to Samarkand is stated to be 120,000 tons.

The construction of the railway on the far side of the Oxus to Bokhara and Samarkand will not be attended with any considerable difficulty. Great part of the embankment is already built. The route from Samarkand to Tashkend—which will probably form the eventual terminus of the railway—is not yet surveyed. It would, however, be necessary to cross the Syr Daria, and a considerable stretch of desert. The direct route from Merv to Samarkand by Burdalik and Karki was surveyed, but for several reasons its adoption was not considered advisable. The railway would not only require to cut through 100 miles of desert, but would be met by a chain of high mountains. For these and other reasons—notably the expressed wish of the Bokharans that the railway should pass through their capital—the longer route was chosen.

The strategical significance of the Transcaspian Railway has been too often insisted on during the last two years to need recapitulation here. The Russians have as yet scarcely organized the line. The rolling-stock is still insufficient to provide transport for a large expeditionary army; and the dépôts along the railway are as yet in course of formation. When these preliminary difficulties are surmounted, the railway will become a standing menace to the security of the British Empire in Asia.

C. J. L'ESTRANGE.



THE NORDENFELT SUBMARINE BOATS.



N the heavens above, in the earth beneath, and in the waters under the earth, the inventive ingenuity of man has been for some years at work trying to perfect engines of destruction, to annihilate his foes in the twinkling of an eye. The wars of the future will not be carried on simply on the surface of the globe. Aeronauts will be encompassing destruction *in nubibus* while the submarine warrior will operate *de profundis* from the rocky caverns of the deep. The invention of the locomotive torpedo possibly suggested the idea of constructing a vessel which should rise and sink like the torpedo, skim the water, or propel itself beneath its surface, being all the while under control of directing intelligence within. Many attempts in this direction were made in America and elsewhere, but with scant success.

At Landskrona, in October 1885, the Nordenfelt boat, the first of its class which was laid down at Mr. Nordenfelt's factory in Stockholm some two years previously, was tried in the presence of officers representing every European Power and Brazil and Japan. The boat is cigar shaped, and has a coffin-like projection on the top amidships, formed by vertical combings supporting a glass dome or conning tower, one foot high, which enables the commander to see his way. The dome, with its iron protecting cover, stands on a horizontal lid, which can be swung aside to allow the crew of three men to get in or out without difficulty. The length of the hull is 64 feet, and the central diameter 9 ft. It is built of Swedish mild steel plates $\frac{1}{2}$ in. thick at the centre tapered to $\frac{1}{4}$ in. at the ends, supported on angle-iron framing, 3 in. by 3 in. by $\frac{1}{2}$ in. This boat can be sunk by being forced down by mechanical power applied from within, after being weighted down by taking in sea-water sufficient to diminish, without destroying, the buoyancy. Mr. Nordenfelt adopted this arrangement, placing sponsons on each side of the boat amidships in which are wells for the vertical propellers capable of working the boat up or down. In order to prepare for action, enough sea-water is taken in to reduce the buoyancy to about 1 cwt., which suffices to keep the conning tower well above the surface. To sink the boat further the vertical propellers are set in motion, and, by their action, it is held at the required depth. Thus, to come to the surface again, it is merely necessary to stop the vertical pro-

pellers, in which case the reserve of buoyancy at once comes into play. This principle is rightly regarded as important, even if not essential, in a safe submarine boat. A breakdown in the engines does not entail danger, since the reserve of buoyancy is never lost for a moment. As a still further safeguard, however, Mr. Nordenfelt provided an automatic check on the downward motion. A level, with a weight which can be adjusted so as to counterbalance any desired head of water, is connected with a throttle valve supplying steam to the engine working the vertical propellers. Thus, directly the desired depth is exceeded, the increased head of outside water overcomes the weight and the vertical propellers are stopped.

The motive power is steam alone, generated in a boiler of the ordinary marine type with a forced draught. So long as the boat runs on the surface, this boiler can be stoked, and a constant head of steam maintained. The smoke is driven out through two channels which pass partly round the hull and point aft. For submarine work, no stoking is, of course, possible, and the firebox has to be sealed. It is therefore necessary to store the requisite power beforehand, and this is done by heating the water in two tanks placed fore and aft, and connected by circulating tubes with the boiler, till a pressure of about 150 lbs. per square inch is attained. With about this initial pressure the boat has been driven by the stored steam for sixteen miles at a speed of seven knots. The greatest surface speed attained is a little over eight knots, and the boat has been run for 150 miles without recoaling. There are three sets of engines, one of which drives the propeller, an ordinary four-bladed screw 5 feet in diameter. The other engines drive the blower and the horizontal propellers respectively.

A great difficulty in submarine navigation is to preserve an even keel when under water. Should a boat turn downwards when in motion below the surface, it might easily strike the bottom or reach a depth at which it must collapse before its course could be arrested. On the other hand, if the bow took an upward turn under the same circumstances, the boat would rapidly come to the surface, and be exposed to view and to projectiles. It is evidently, therefore, of the utmost importance to provide ample steering power in a vertical direction. In a Nordenfelt boat, two horizontal rudders are placed one on each side near the bows, and are acted upon by a hydraulic engine and a pendulum inside the hull.

This pendulum, coming into play the instant the boat takes a cant in either direction, actuates the horizontal rudders, and causes her immediately to return to an even keel. By this means it is claimed that the boat is automatically kept with her axis horizontal, while since the bow rudders are entirely beyond the control of the crew, there is no danger of accident due to neglect or loss of nerve.

It must not be thought, however, that there was anything very crude in the design of the said boat. She was the result of several years' patient thought and practical experiment, and in the public trials referred to was seen the successful realization of his ideas. In addition to her submarine qualities, she has also proved to be a good sea-boat for her size, and as far as her form and construction are concerned, there is nothing to prevent her making a voyage to any part of the world.

The result of the trials made in the Kattegat in September 1885, with Nordenfelt's submarine boat, suggested to the inventor certain important improvements which were embodied in the two harbour boats constructed by him for the Turkish Government. In the construction of the Turkish boats the main lines of their predecessor were followed. The form in both is that of an elongated cylinder tapering to a point. Although at the first glance this may not seem to be the best adapted for meeting a heavy sea, practical experience shows that it is only necessary to keep at a moderate speed, and take the seas on the bow, to be safe with these craft in any weather. This is considered due to the absence of any extra buoyancy at the ends which neutralizes to a great extent the tendency to lift at the extremities found with an ordinary vessel in a sea-way. The Nordenfelt boat rises and falls bodily with very little perceptible pitching, and by keeping the seas about two points on the bow, they break and only a little loose water is shipped midships.

As the Nordenfelt system may not be generally understood, before proceeding any further with the details of these boats at Constantinople, it will be well to say a few words in explanation of the same. The great merit of Mr. Nordenfelt's invention is undoubtedly to be found in his application of steam for submarine propulsion, and the method employed for keeping at any required depth. Other inventors have produced craft that could descend below the surface, and even move to a short distance in given directions; but none have yet been found capable of proceeding to such distances and at such rates of speed as the Nordenfelt. The properties of steam are well understood, and the experience of years has shown it to be thoroughly trustworthy as a motive power. The same can hardly be said, as yet, of electricity, seeing the delicate nature of the apparatus connected with its employment, and the special means required for the restoration of exhausted energy. Similar objections are also to be

found to the employment of compressed air, or any such chemical means as caustic soda. The difficulty solved by Mr. Nordenfelt is the storage of the heat required to generate steam sufficient for a lengthened run, thus obviating for a certain period the necessity for any combustion. This is effected by storing heat in the water contained in a rhomboidal reservoir, marked in our engraving P. While running at the surface, the pressure in the reservoir is maintained at the same point as in the boiler; and when the boat descends and further combustion becomes possible, this reserved force is used for driving the engines. The boat is made to descend by two vertically-acting screws, worked by separate engines, and is maintained in the horizontal line by movable fins at the bow. As the boat has always a certain amount of buoyancy, the mere arrest of these screws brings her to the surface. Then, again, the action of one alone will give any desired inclination. No attempt is made to purify the atmosphere when submerged, as experience has shown that to be unnecessary, the air remaining sufficiently pure to support respiration with the boat in that condition for much longer period than would ever be required of her in the performance of any sort of service.

The principal dimensions of the Turkish boats are as follows: — Length, 100 ft.; beam, 12 ft.; and displacement, 160 tons. The engines are of the ordinary surface condensing compound type, with two cylinders, and are estimated to indicate, at a pressure of 100 lbs. of steam, 250 horse-power. There is nothing particularly to remark about these engines, except that the circulating and air pumps are worked by a separate cylinder. The main engine is thus left free to work or not, while vacuum is always maintained to assist the various other engines with which the boat is fitted. It may, however, be noticed that all the engines in the boat are specially designed as regards the valve arrangements, &c., that the utmost use may be made of the vacuum. In respect to this, it may be mentioned that experience has shown that during the submarine operations as much power is developed below the atmospheric line as above it. The boiler marked G in the longitudinal section is of the ordinary marine return tube type. It has two furnaces, and the heating surface is about 750 square feet. A novel feature about it is, however, that after the products of combustion have passed through the tubes, they again pass through a large pipe marked H in the steam space of the boiler before they reach the funnel. The object of this is threefold; first, the economy of heat and fuel; secondly, to enable the funnel to be as near the centre of the boat as possible; and thirdly, that the inboard portion of the same might be kept the cooler by thus lengthening the passage to it of the heated air. The hot-water cistern is seen at P, and the power to operate all the separate engines during a submarine

voyage is the heat as previously mentioned, which is stored up in its contents, as also in those of the boiler. In all there are some 30 tons of water, the vapour of which has a maximum tension of 150 lb. per square inch when the boat is first submerged; and this, with the assistance of the vacuum, is sufficient to drive her from thirty to forty miles without lighting any fire on board or using any air for the generation of heat. The pressure is raised in the hot-water cistern as follows. Live steam from the boiler enters at B, a series of tubes which have a superficial area in all of some 500 square feet, and after parting with its latent heat to the contents of the cistern, being then in the aqueous form, is taken off by a small double-acting pump and carried back to the boiler.

The propeller A is placed abaft the rudder B, and it will be noticed that although the shaft is central, working on the thrust block D, the coupling connecting the crankshaft of the engine, E, is placed low down in the boat. It is this feature in the arrangement which admits of the use of a marine engine of ordinary type. The engines which operate the vertically-acting screws are of the three-cylinder type. This is in order that there may be no dead centre, as it is highly important that they should start the moment steam is turned on. The steam for these engines passes through a valve of peculiar construction, which is worked by the captain of the boat. By its use he is enabled to vary the speed of the propellers and to stop them, both together or separately, at will, and thus to arrange the depth at which his craft is to operate. As seen in the engraving, these propellers in the Turkish boats are placed in the fore and aft line. This is one of Mr. Nordenfelt's recent improvements, these screws in their predecessor having been fitted in side sponsons. In the trials that have so far taken place at Constantinople, this alteration has been found to answer very well. Notwithstanding their slight immersion at the commencement of a descent no jet of water is thrown up as might have been expected, a bubbling at the surface being the only indication that the screws are in motion. This new arrangement, it may be added, materially assists in preserving the horizontal position of the boat, a condition which Mr. Nordenfelt has found, by a long course of experience, to be essentially necessary to the safe manœuvring of any sort of submarine craft.

The bow-fins, W W, upon which the maintenance of the horizontal position also depends, are seen in Fig. 2. By a very ingenious arrangement of the plumb-weight, with other mechanism extending to the conning tower, the action of these fins is rendered both automatic and controllable, and perfect command thus ensured over the movements of the boats, as far as the vertical plane is concerned. To touch now upon the manner in which the Nordenfelt is operated; it should be understood that the boat has two distinct conditions of existence as

a torpedo craft—that of a surface boat and a submarine one. When performing the functions of a surface boat, the air which is sucked into the boat through the conning tower K, by the fan L, is forced by the said fan into the engine-room. From here, having no other outlet, it passes into the furnaces, and after supporting combustion, reaches the atmosphere by way of the tube H, as previously described, and the funnel. The connecting link between the inner and outer portions of the funnel M and M¹ is not seen, it should be mentioned, in the engraving. In this position, with more or less of her bulk immersed, as may be thought necessary, according to the nature of the service upon which she is engaged, the boat can proceed upon voyages only limited in extent by her coal-carrying capacity. This in the Turkish boat is estimated to suffice for the fuel to drive her 900 knots at a moderate speed. The immersion of the boat in her surface condition is regulated by the admission or otherwise of water into the ballast tanks. Of these there are three, one at each end and a third under the centre compartment, T T T in the engraving. The two first mentioned contain about fifteen tons of water each, and the central one seven, when the boat is at her proper draught for descending. At this draught there is very little of the craft visible beyond the conning tower, and, knowing even in which direction to look, it is not an easy matter to make her out at any great distance, the eye being unassisted by the ear, on account of the noiselessness of the engines. All those who have witnessed the running of the boat here have been particularly struck with this feature of her performance, as also the little disturbance at the surface occasioned by the screw.

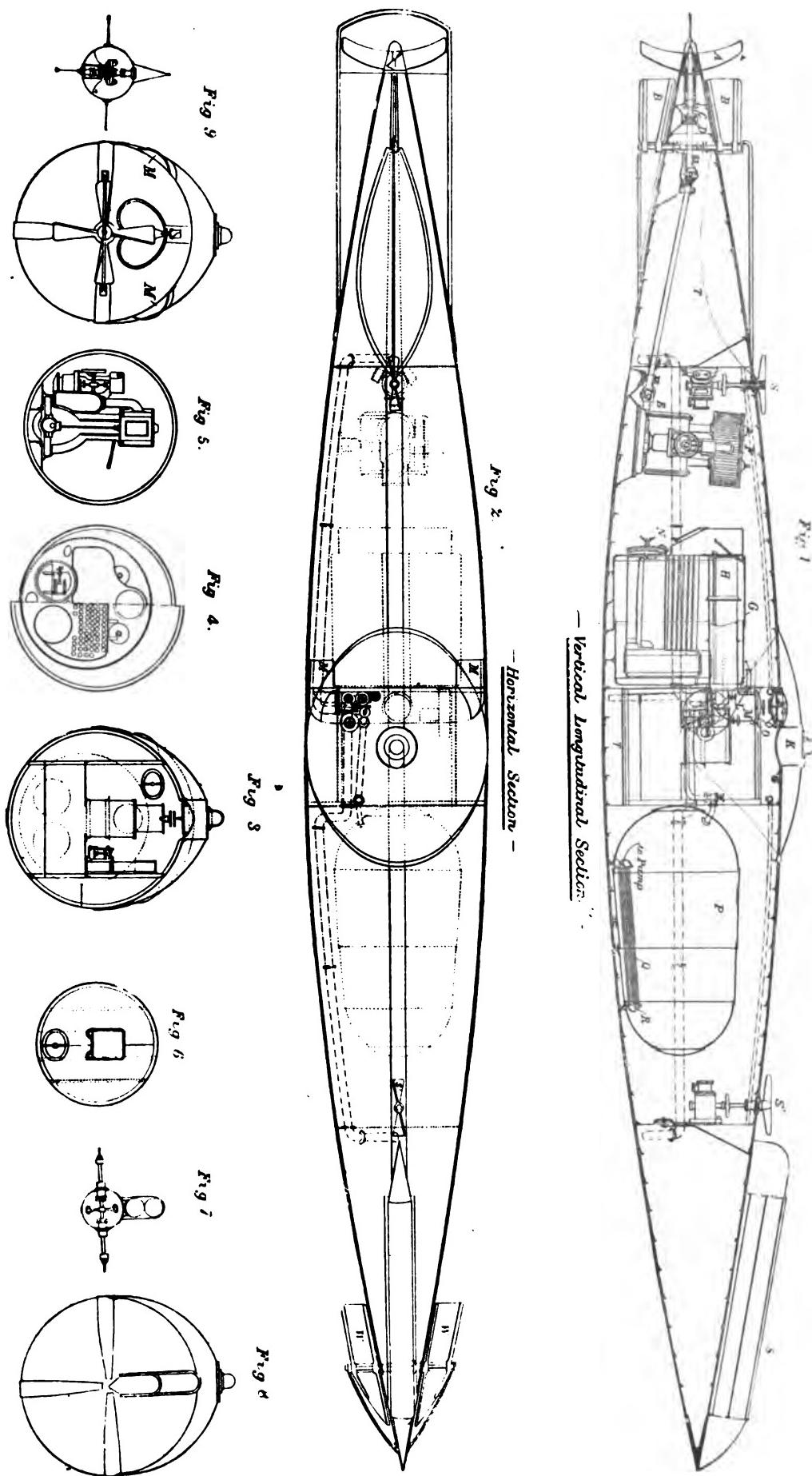
Before the boat can assume her condition as a submarine craft, it is necessary to hermetically close the furnaces, which is done by the doors marked N, upon which combustion is soon brought to an end. The piece of funnel connecting the boiler with the outboard portion is then removed, and the doors O and O' placed in position, as shown in the engraving. Whilst these changes are being effected, water is allowed to run into the ballast tanks, to reduce the buoyancy to its proper limit, and this arrived at, nothing remains but to close up the conning tower. The vertically-acting screws may then be set in motion to place the boat quite out of sight, or she may proceed with nothing but the glass cupola of the conning tower showing above the surface. At the trials hitherto made with the boat, the Turkish naval authorities have always been present.

The boat has run at the surface and made several descents, in a very satisfactory manner, and all parts of the machinery having thus been thoroughly tested, she is now being fitted with her torpedo gear in readiness for further official trials. This torpedo gear is of special

THE NORDENFELT SUBMARINE BOATS.

48

THE NORDENFELT HARBOUR BOAT.



F 2

construction, designed by Mr. Nordenfelt to meet the requirements of the Turkish boats. In the engraving, S indicates the outer case containing the two locomotive torpedoes that form the principal armament of the boat, and there is, of course, a connection between it and the conning tower, by which the captain obtains the necessary command over them. In addition to these two torpedoes, the boat, it should be mentioned, carries for use in her surface condition two Nordenfelt quick-firing machine guns of 1-in. calibre. This greatly increases her defensive power, and renders her a formidable object to attack, even when unprepared to disappear out of sight.

Last May the No. 2 Nordenfelt Harbour Boat was submitted to an ordeal that could not possibly have been rendered more severe as a test of her steaming and steering powers, or as a trial of the nerves of those in charge. Orders were given by his Imperial Majesty, the Sultan, for the boat to manœuvre off Seraglio Point. On the arrival of his Majesty, the Nordenfelt boat received orders to begin operations. The fires were banked, but the required pressure—150 lbs.—was in the reservoir, the water having been already heated. This, it may be remarked, would be the normal condition of these boats during war. A buzzing of surprise and admiration was heard as the Nordenfelt hove in sight, coming down the Golden Horn, dexterously threading her way between the lighters and caiques; she shot the bridge without slackening speed, no easy feat considering the narrow width of the opening and the adverse set of the current. It was amusing to hear the comments on her appearance. The "whale-ship" was the name conferred on her by the general verdict, and it seemed *à propos*, as little was to be seen of the boat above water, but the dome and upper part of the torpedo tube, which in the distance looked like the hump or fin of some sea monster.

In obedience to the orders of the Sultan, who himself directed the manœuvres from the shore, the boat lay for some quarter of an hour, in the very strength of the current, off Seraglio Point. She maintained her position with the greatest ease by a few turns of the screw, whilst the attendant launches found it impossible to stem it. Whilst in this position she narrowly escaped serious injury, owing to the traffic. A large lighter crossing the stream, and hugging the wind to save ground, passed too close and was struck by the screw. Fortunately, she was empty, and so it was easy to get at the hole made in her bottom, and she reached the shore in safety. As for the Nordenfelt, a few inches off the end of one of the blades was the only damage sustained. Being directed to attack a steamer lying off the Scutari shore as a surface boat, the Nordenfelt, turning in a little over her own length,

darted across the current. End on, very little was seen of her, and the eye once removed, she was not very readily discovered again, in spite of the direction being known, on account of the absence of smoke, and the very light colour of the outside painting. Even on the broadside there was little of the hull to be seen whilst running on account of the screen formed by the bow wave. She seems to divide the water like a plough, throwing up a bank on either side, thus forming a furrow in which she would have run completely out of view but for the small chimney kept in place when on the surface for the maintenance of combustion. As she neared the vessel, two jets of water were suddenly thrown upwards to fall in showers of spray. This marked the moment of delivering her attack. The tube doors being thrown open for the release of the Whiteheads, the water rushing in forced out the air through the vent holes at the rear, with the above-described effect. At that moment she looked more like a whale than ever, and might easily have been taken by the most knowing Greenlander for a big fish spouting. Returning to Seraglio Point, she was next directed to run as a surface boat against the current. In this trial for speed, her performance was a remarkable contrast to that of the attendant launches. Instead of keeping their position as pilots, they were soon left far behind. According to the revolutions and distance run in a given time, she did her eight knots over the ground against a current that was running but very little less than five. On her return from this run orders were given for a second attack to be made upon the steamer, on this occasion as a submarine boat. The vessel being at no great distance, she steamed slowly ahead so as to afford time for getting rid of the extra buoyancy, and closing up. Soon there was little to be seen of her but the hump-like dome, and having turned towards the enemy, it was difficult to keep her view. Suddenly she was lost sight of, to appear, however, shortly afterwards, rounding the bows of the vessel from the other side. She had, as it were, dived to deliver her blow, and then turned off to avoid pursuit. No jet was thrown up on this occasion, the escaping air losing all force before reaching the surface. The Sultan expressed himself highly satisfied with the performance of the boat. Altogether she was under weigh over five hours, during two of which she ran under her reserve steam, using the latter also for her return trip up the Golden Horn. On reaching her moorings there was still 90 lb. pressure in the reservoir, so that she could have continued under weigh for some time longer.

The experiments made at Carlscrona and Constantinople were turned to good account by Mr. Nordenfelt, who, in designing the present sea boat (familiarly known as the "Southampton" boat, although built at Barrow), the subject of our illustration, profited

largely by experience, and got rid of the defects which marked his first attempts. It is larger and swifter than the early boats, the submerging and regulating gear is superior and self-sustained, and means have been taken for retaining a reserve of buoyancy always at command, with consequent facility for rising to the surface when desired. In form the Nordenfelt may be said to resemble an exaggerated Whitehead. Whereas the latter is propelled through the water by means of a supply of compressed air, the former when totally submerged is driven along by the force of a reservoir of stored-up steam after the fires have been closed. The crew, which consists of nine men, breathe the natural air contained in the structure, which, considering its size, will remain for six hours without becoming foul. Simplicity has been studied in all the details, with a proportionate gain in efficiency. Of course, the transcendent object to be aimed at in a novelty of this kind is, whatever else may fail, to secure the safety of all within, and so far the Nordenfelt boat appears to be at least safe. Should anything go wrong with the machinery, the buoyancy (the *minimum* of which is equal to about half a ton), will cause it to rise without assistance from the pumps, and should, through excessive speed of the screws, the craft sink deeper in the water than is either desirable or safe, automatic valves come into action and turn off the steam, whereupon the boat ascends naturally to the surface.

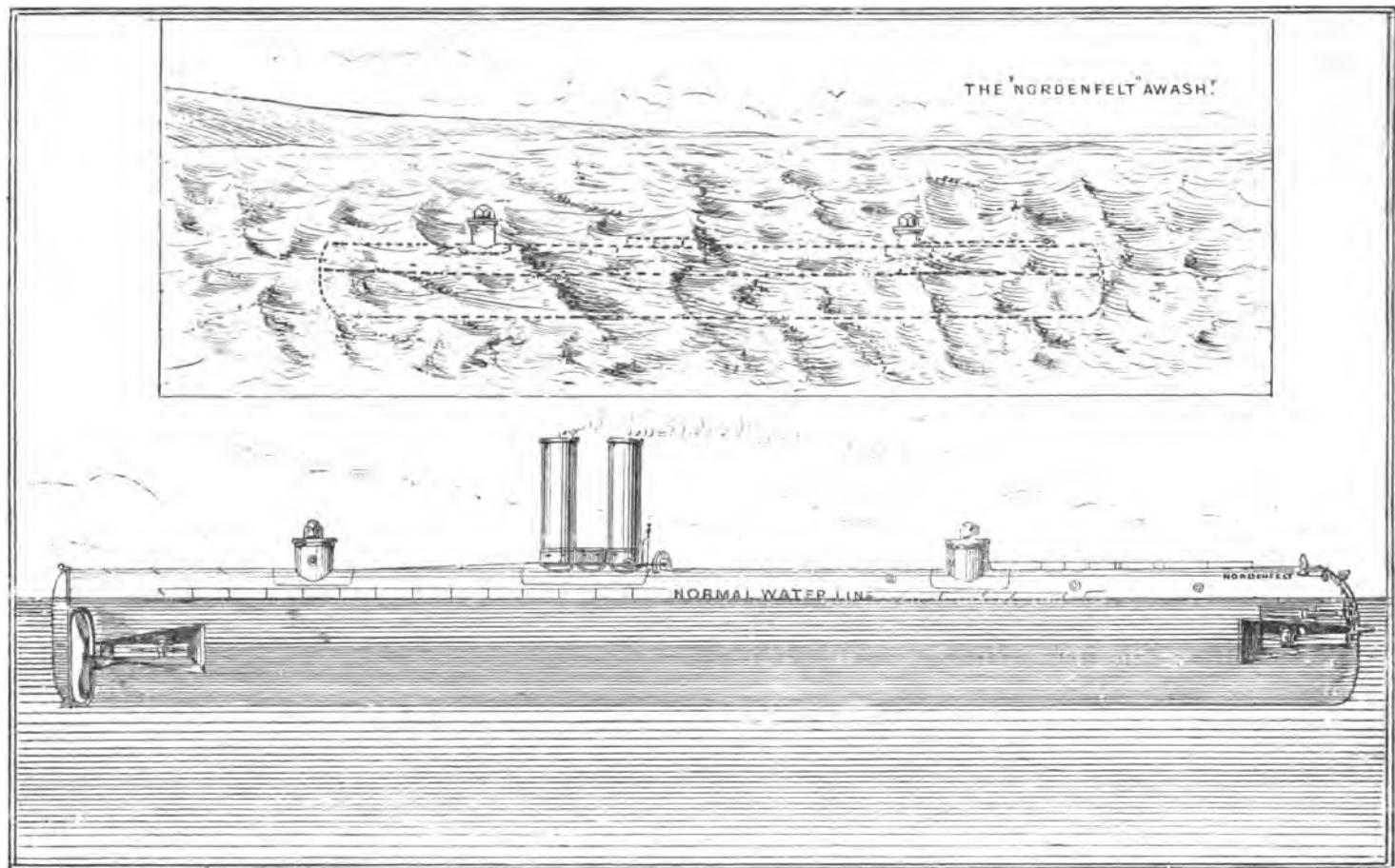
A first private trial of the boat came off, May 26th last, at Southampton, in presence of General Sir L. Nicholson, Inspector-General of Fortifications; General Hardinge Steward, Colonel Luard, Admiral Morgan Singer, Captain Wilson, V.C., and the following colonial representatives:—Sir James Garrick, K.C.M.G., Sir James Lorrimer, K.C.M.G., Captain Thomas, Captain Dickson, and Captain Whitney. On proceeding to the jetty in the South-Western Docks, alongside which the Nordenfelt was lying, the party was increased by Admiral Sir George Willes, Commander-in-Chief at Portsmouth, General Sir George and Lady Willis, and Captain Seymour, R.N., who had arrived in the *Fire Queen*, and by Captain Long, of the *Vernon*, Captain Domville, of the *Excellent*, Captain Seymour, Captain Harvey, and a number of naval officers who had been brought down in No. 23 torpedo-boat. The first thing to do was to explore the interior of the craft, a work which involved considerable time in consequence of the small apertures through which an entrance had to be effected, and the limited accommodation below, which rendered it necessary that only small batches should be admitted together.

The marine monster measures 125 ft. in length (the precise dimensions of a modern first-class torpedo boat), and 12 ft. beam amidships, with a displacement of 250 tons. The midship section is a perfect circle, the

other sections being composed of two arcs of a circle, gradually decreasing in size fore and aft, so that the depth is less than the diameter, except at the broadest part. She is constructed entirely of steel, but with much stronger scantlings than an ordinary torpedo-boat. The bottom plating is about half an inch thick, while the turtle-deck is the uniform thickness of an inch. There are two funnels in the middle, with an intervening scuttle admitting to the stokehold. These funnels are movable, and are stowed away when the boat goes below, or when she is approaching an enemy, with everything battened down, but the manner in which the funnels are disconnected leaves room for improvement. Two conning towers also rise above the deck, forward and aft. These are about two feet high, and are surmounted by glass caps, to allow of observations being made when everything above is sealed. In the forward tower are located all the necessary connections for giving the captain command of all the machinery for driving and steering the vessel, for sinking or rising, for controlling the fans, for regulating the screws which govern the immersion, and for discharging the torpedoes, of which it is intended to carry four. The boat is propelled by a single screw, which is driven by a pair of double-cylinder vertical compound engines, working upon four cranks diametrically set; the high-pressure cylinders are $15\frac{1}{2}$ in. in diameter and the low-pressures $27\frac{1}{2}$ in., with a stroke of 16 in. The engines are capable of exerting a collective indicative power of 1,000 horses. Steam is generated in two boilers capable of working up to 150 lbs. to the square inch, at which a speed on the surface of 17 or 18 knots is expected to be realised, as 90 lb. pressure has already given 14 knots. There are, all told, 11 engines on board for propelling, circulating the water through the condensers, steering the vessel, actuating the fans for forced draught, working the pumps, and turning the screws by which the Nordenfelt is kept at any required depth when submerged. When the vessel goes into action the funnels are stowed away, all the scuttles made watertight, and the fires closed up; the steam has, in the meantime, accumulated to a pressure of 150 lbs. When she has approached within dangerous proximity to the machine and rapid-firing guns of an enemy, the moment has arrived when the vessel must temporarily disappear from view. This is accomplished in the following manner:—Below the inner deck, forward and abaft the machinery, are a number of tanks. Into these about 23 tons of water are admitted from the sea, which will bring the vessel down to the “awash” position, only the turrets showing, and which represent the amount of buoyancy remaining as the reserve of safety which is never permitted to be diminished. When this degree of immersion is reached, two horizontal screws,

working in apertures freely open to the sea in the stem and stern, are put simultaneously in action, and mechanically draw the structure below the surface, the depth, which is measured by a pressure gauge, being adjustable to a few inches. In this condition it is said the boat can remain for five hours with a continuous speed of four knots, but as the reserved steam can be used in any quantity whether below or above the water the speed can always be increased. For proportionately shorter distances, when the screws are arrested the boat rises by its own buoyancy to the same height as it was when the screws were put in motion, its subsequent

breeze, with everything hermetically sealed, though for a shorter distance the pressure of accumulated steam was sufficient to drive her 8 knots. The neutral tint she was painted rendered her almost invisible at the distance of a few hundred yards, while, as a target, she presented nothing open to attack save her two conning towers and the top of her turtle, and as these are curvilinear and formed of steel an inch thick, their vulnerability to torpedo-guns is very questionable. Without smoke and noise, and without the slightest signs of motion, she steamed round the *Invincible*. The next exhibition of her powers was of even greater signifi-



Surface position for long passages.]

THE NORDENFELT SEA BOAT.

emersion being due to the action of pumps, which are capable of relieving the tanks at the rate of a ton and a half a minute. The normal bunker capacity of the Nordenfelt is equal to 8 tons of coal, which will drive her 1,000 miles at from 8 to 9 knots, but for ordinary steaming, when the tanks are not required to be filled with water, she can stow 28 tons.

After the Nordenfelt had been immersed until the base of the conning towers were just awash, she proceeded down Southampton Water as far as Netley Hospital, the party accompanying her in the *Alexandra* steamer. She made a speed of about five knots against a lively

breeze. Having shipped her funnels, lighted her fires, and got up steam in her boilers, she made a run as far as Calshot Castle and back, a total distance of about thirteen miles, at a maximum speed of 14 or 15 knots. Even those who were doubtful as to her value as an engine of submarine warfare were bound to confess that for service as an ordinary torpedo-boat she possessed great advantages over boats of the common type. The speed was fairly good; her behaviour was excellent, and, as compared with the ordinary surface torpedo-boat, No. 23, which ran alongside her, she appeared a mere streak in the water. It was also noticed that

when going at her highest rate of speed through the water she produced a bow and stern wave which completely hid her hull in a hollow, and gave her all the appearance of a submerged boat, leaving nothing but the funnels visible or exposed to the enemy's fire.

Those who witnessed the great Jubilee Naval Review at Portsmouth from the great Indian trooper *Tamar* saw that she was steadily followed from Southampton Docks by a craft which, looked on from the great height of the *Tamar*'s taffrail, more resembled in hue and shape, but certainly not in speed, a huge slug than anything else. This was the submarine torpedo boat, the Nordenfelt. The *Tamar* got out of dock late, as she had to give way to the *Orontes* and the *Himalaya*, and she did not waste time in steaming to Portsmouth. She is a fast ship, too, and returning to Southampton in the evening she very easily and handsomely beat the *Orontes*. But on the run down to Portsmouth the Nordenfelt just kept the position with regard to the troopship that she liked best. She was not nearly submerged; yet the target she presented was extremely small. Coming bows on 200 yards or so in the wake of the *Tamar*, little could be seen but an upheaved mass of water. Unlike torpedo boats, which, when going at speed, lift their bows out of the sea, the Nordenfelt keeps on an even keel, and raises in front of her a curious wave, which is proof against machine guns, because the solid mass of water deflects bullets upwards at such an angle that they clear the hull. The Nordenfelt appeared to be the very incarnation of destructive power. There was not one of the magnificent and costly men-of-war reviewed by Her Majesty that could do anything to avert destruction by the Nordenfelt, if that destruction were contemplated, save take to her screws as fast as she could. At a distance of a mile the boat, when à *fleur d'eau*—that is to say, with only her little conning-towers out of the water—is invisible; when within a couple of hundred yards she would not be detected, save by chance, if there was a little sea on; at night, the chances of her being found by torpedo guard-boats would be extremely small. She could thus run quite close up to a ship without availing herself fully of her submarine powers, and her chances of getting away unhurt, after discharging her torpedoes, would be very good. But she could approach within a mile of an ironclad at anchor; take her bearings accurately and then go down, and proceed under water until she had run the requisite distance—she could, if in any doubt, come nearly to the top for a moment to permit the steersman to see where he was precisely, and then go down without being detected, or, if detected, injured—and immediately afterwards deliver a blow which would send a great ironclad to the bottom. The Nordenfelt has rendered naval operations against forts and harbours nearly impossible. No commander dare lie near a harbour from which a sub-

marine boat could be despatched to blow up his ship, whether just off the shore or 50 or 100 miles out at sea. The one chance remaining is that ships may be rendered torpedo proof, and how that is to be done is the problem of the future.

A second series of trials came off at Southampton on the 19th and 20th of last month under the personal superintendence of the inventor.

Mr. Nordenfelt and a party consisting of General Sir Gerald Graham, R.E., Mr. W. H. White (Director of Naval Construction), Colonel Armstrong, R.E., Captain Drury, R.N. (member of the Works Committee), Captain Douglas, R.N. (Ordnance Committee), Lieutenant Jaques, American Navy, and the following Naval Attachés—Count Candiani (Italy), Captain Rousseau (Austria), Captain Shroeder (Germany), Commander Chadwick (United States), Captain Romero (Spain), Commander Oboku (Japan), and Woods Pasha (Turkey)—left Waterloo Station on Monday morning, the 19th ulto., for Southampton where they were joined by Commander Batten, of the Vernon torpedo-ship at Portsmouth, and Major Ord Browne, R.A. The Nordenfelt was lying in the inner dock with her funnels in position and in light trim for service as an ordinary torpedo-boat. Since the last trial some alterations had been made in the valve arrangements of her machinery, whereby the inventor guarantees an enhanced speed of 17 knots in her surface condition. A ventilating shaft in line with the funnels had also been fitted, as well as a flat deck level with the turtle top for the convenience of the men, of whom she carries nine, passing between the cupolas. In other respects she was unchanged. The party embarked on board the *Alexandra* screw steamer, and proceeded out on Southampton Water as far as Calshot Castle, followed by the Nordenfelt, which, however, easily passed the steamer. As accurately as could be estimated she went at a speed of 15 knots, without any rolling motion, and her engines working so noiselessly that no sound could be heard. The *Alexandra* then returned towards Southampton; and when a distance of about 3,000 yards had been placed between her and the Nordenfelt, the latter approached end-on at full speed, with the object of allowing the company to judge of the difficulty of sighting her, even in her surface trim. The afternoon was dull, and the play of light so fitful that it was at the best of times difficult to distinguish her. Sometimes only her forward funnel was visible, at other times her position was only marked by the crest of the bow wave (which, at a high speed, not only effectually conceals the hull but acts as a protection), while occasionally, when obscured by the shade of a passing cloud, she entirely vanished from observation for several seconds. The remarkable absence of any smoke, even when running on the surface, was

favourably noticed by the spectators. Even when at 500 yards, she showed such a slight target that it would not have been possible to take a careful aim, and she ran close past the steamer at full speed against a 4-knot tide.

The second trial was devoted to a night attack. It was known that Captain Garrett would submerge the boat; but as it was supposed that he might attempt a surprise from some unknown point of the compass, a long watch was kept up on board from 5 o'clock until near upon 8. The moon came out and cast a shimmer of light upon the water, and it was thought that the enemy would be certain to be detected in crossing the ray. Presently, however, a nimbus cloud came floating over the scene from the north-west, and rain began to fall, followed by total obscuration. To make matters worse, a large German mail steamer anchored close at hand, and a number of tenders, with coloured and mast-head lights, began to move about. The *Alexandra's* head-light, on the other hand, was of indifferent brilliancy; and just as those on board had made up their minds that Captain Garrett had lost his bearings, or that he had delivered his attack in some other direction by mistake, or that he had met with an accident, a whistle at some distance to windward aroused the spirits of the watchers, as this was the signal agreed upon when the boat had arrived at 400 yards from the steamer, ready for discharging her Whiteheads. The Nordenfelt carries two Whitehead torpedoes in the tubes, which can be discharged simultaneously or one after the other, and two spare torpedoes. This was at 10 minutes to 8, and nothing further occurred until after the lapse of 8 minutes, when a grampus-like blowing was heard about a hundred yards away on the port bow, which was afterwards ascertained to have been caused by an attempt to free the whistle from water on the boat emerging from below the surface. Some imagined they could perceive the outline of the Nordenfelt near at hand, but the majority were sceptical; and it was not until the captain blew a loud blast from his whistle, and exhibited a light to signify that the attack had succeeded, that the spectators had really any tangible evidence of the presence of the enemy, who was then only some 80 yards off. It appeared that Captain Garrett had begun his approach on a slack tide about 7 o'clock, at a cautious speed of not

more than 4 knots, and at a depth of five feet below the surface. The lights of the many craft on the water, and the arrival of a fleet of fishing vessels under sail which showed no lights at all, somewhat confused him. Apprehensive of being run into, he deemed it necessary to rise for observations at every 50 or 60 yards. The attack was very cleverly conducted under great disadvantages, and proved a genuine surprise. Of course, it is quite possible that the electric search light might have succeeded in discovering the boat during one of its look-rounds if the sea had been absolutely calm, but it would have disappeared long before any gun could be brought to bear upon it. And even if this were not the case, as only the forward cupola—which is nothing more than a helmet large enough to contain a man's head—would have been visible, the chance of a hit would be exceedingly remote. On the other hand, as the position of the opposing vessel would itself have been clearly defined by the light, the balance of advantage would be on the side of the attack.

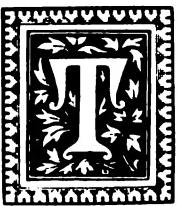
As the handling and behaviour of the Nordenfelt in its fighting trim could not be determined in the dark, a demonstration of its under-water action was given in dock on the following morning before the same distinguished company. After the officers had had an opportunity of inspecting the curious craft afloat, the cupolas and hatches were battened down, and sufficient water was let into the tanks to submerge her topsides level with the sea. In this condition, her only reserve of floatation was contained in the conning towers, and was estimated at half a ton. The horizontal screws were then put in action, when the hull disappeared by the stern, the whole structure becoming almost instantaneously submerged. As soon as the screws were slowed she lifted readily; and when the mechanism was completely arrested, she came up like a cork. The experiment was repeated several times without the slightest mishap, the cupolas appearing and disappearing like the floats of an angler, to the manifest astonishment of the company and a considerable assembly of casual spectators. The demonstration was in every respect a success, and the utility of the boat as an important factor in coast and harbour defence was generally admitted by the many experts present on the occasion.



ON MILITARY AND NAVAL MEDALS.

" Britain, conscious of her claim,
Stands emulous of Greek and Roman fame ;
In living MEDALS sees her wars enroll'd,
And vanquish'd realms supply recording gold."—POPE.

" What is a ribbon worth to a soldier?
Everything ! Glory is priceless."—Sir E. B. LYTTON, Bart.
" A cabinet of medals is a body of history."—ADDISON.



THE universal usage of conferring medals has been derived from the ancients. For Sovereigns and States to commemorate military triumphs and other great events, it was only at a comparative recent period that medals were made the reward of military services,

and worn as personal decorations. It has not been ascertained when the custom began in England, nor whether it had previously existed in other parts of Europe; though there are numerous examples of Sovereigns and Princes having given chains and medals, not as ensigns of an order of knighthood, but as tokens of favour, to their own subjects and ambassadors and envoys sent to their Courts on public affairs.

Those distinctions were certainly worn upon the person, and, in the fifteenth and sixteenth centuries, it was as usual to place chains and medals in the hat or bonnet, as to suspend them from the neck.

The medals, in most cases, bore a representation of the sovereign, or other royal personages who gave them; and there are still extant several oval ornaments containing the effigies of King Henry VIII, Queen Elizabeth, and King James. The medallic history of England really opens with the reign of Henry VIII; and the medals of that period are chiefly commemorative of persons and not of events, among which may be mentioned that of John Colet, founder of St. Paul's School, 1512; the medals of Sir Thomas More, Thomas Cromwell, and Michael Mercatey; and the various medallic portraits, counters, and badges of Bluff King Hal himself. In Elizabeth's reign, medals were struck to commemorate the defeat of the Spanish Armada.

Foremost among these memorials are the badges bearing the portrait of Elizabeth, crowned, and holding the sceptre and orb, and decked in a massive ruff and jewelled drapery, having on the reverse either the ark resting securely and tranquilly on the waters, or else a bay tree standing upon an island, uninjured by the falling lightning, emblematic of the fortunes of the Queen, who had escaped the many dangers that had

surrounded her, inasmuch as the Armada had been repulsed—the Queen of Scots was dead—and France and the Vatican had been defeated.

In the reign of Queen Elizabeth and King James, many silver oval medals seem to have been given for naval achievements, and are engraved in the *Medallic History of England*, and other works.

" It is not certain," writes T. Harris Gibson, " whether many of the medals of Queen Elizabeth and James I. were intended to be borne as military or naval decorations; from their appearance, we may presume they were—their oval form, and the fact that they have either loops or rings attached, would seem to lead to no other conclusion."

The earliest proof that can be adduced of medals being conferred in England for services in the field is in the reign of King Charles I. In 1643, this Sovereign established a badge as a military decoration to reward such soldiers as most distinguished themselves in "forlorn hopes." The badge was of silver, and represented His Majesty and Prince Charles. The practice of bestowing such honorary distinctions does not appear to have been of frequent occurrence. With the exception of the Dunbar medal (described further on) we have no general distribution before the Deccan and Mysore campaigns. At the Battle of Edgehill, in October, 1642, Robert Welch, an Irish gentleman, in the command of a troop of horse, eminently signalized himself by recovering the standard of the "King's Own Regiment," which had been taken by the rebels, and by capturing two pieces of cannon, and the Earl of Essex's waggon. On the morning after the battle, Prince Rupert presented Mr. Welch and his trophies to His Majesty, who conferred the honour of knighthood upon him; and on the 1st of June 1643, a Royal Warrant was issued to the graver of the King's seals, commanding him "to make a medal in gold for Sir Robert Welch, Knight, with our own figure, and that of our dearest son, Prince Charles, and of the reverse thereof, to insculp the form of the royal banner used at the Battle of Edgehill, where he did us acceptable service, and received the dignity of knighthood from us, and to inscribe about, PER REGALE MANDATUM CAROLI REGIS HOC ASSIGNATUR ROBERTO WELCH MILITI."

The next instance now known of medals being given for services of a military nature was by the Long Parliament during the Rebellion. This Ordinance was repeated in a similar statute the following year to reward the gallantry of Captain Wyard. During the

Commonwealth a considerable number of military and naval medals were struck by order of the Parliament,



BLAKE'S TEXEL MEDAL—Obverse.

including the "Dunbar" and the famous medal for Blake's victories over the Dutch Fleet off the Texel,



BLAKE'S TEXEL MEDAL—Reverse.

which was purchased by William IV. for one hundred and fifty guineas.

On the 3rd of September, 1650, Cromwell defeated the Scottish army at Dunbar. On the 7th of September the Commons resolved : "That their special thanks be conveyed to the Lord General for his eminent services at the great victory at Dunbar, and that his Excellency be desired to return their thanks also to the officers and soldiers of the army, and that a number of gold and silver medals be distributed amongst them." The design of the medal was suggested by Cromwell himself. The artists of those days were celebrated, and include the names of the brothers Abraham and Thomas Simon, who were engaged by the Parliament, and Thomas Rawlins and Nicholas Bicot, who were in the service of the King. In technical delicacy of execution many of Simon's works are unequalled. The Long Parliament passed an Act in 1649, enacting that a tenth of all

prizes due to the Lord High Admiral should be appropriated for medals for eminent services at sea. This Ordinance was repeated in the succeeding year.

Cromwell's Medals for Naval Services.—Cromwell, in order to promote and encourage great naval successes, distributed gold and silver medals to his captains who had distinguished themselves at sea. Three were issued. The first had on the obverse an anchor, the Arms of England (St. George's Cross) and Ireland (Harp) suspended from the beam, a Hawser surrounding ; above, "Meruisti." The reverse, a naval engagement ; above, SERVICE DONE AGAINST SIX SHIPS, JVLY. V. XXXI. and AVGVST. V. I. 1650. Medal, oval, gold and silver. No. 2. Obverse, an anchor ; three small shields suspended from the beam. Reverse, a sea-fight.—For eminent service in saving x TRIVMPH fired in fight w x DVCH in July 1658. Medal, gold. No. 3. Obverse, an anchor and two small shields ; above, "Meruisti." Reverse, the House of Commons sitting. Medal, oval, silver. All these medals are very rare.

On the 3rd of July, 1653, gold chains of the value of £300 each were presented with medals to Generals Blake and Monk, Vice-Admiral Penn and Rear-Admiral Lawson, for the signal victory gained over the Dutch. To officers of lower rank, chains of the value of £40 and medals were granted, and £2,000 was to be given in medals amongst all the officers of the fleet as a mark of the Parliament's favour and good acceptance of the services. General Monk is said to have been invested with the great medal and chain by the protector at a great dinner. The medallic series is well carried on throughout the short reign of James II., and at this period it is that we first meet with those curious little medalets called "touch pieces." The medallic history of the reign of William and Mary and of Anne is historically the most complete of the English series. To give a full list of the events which they commemorate would be no more than to enumerate the chief occurrences of England's history from the battle of the Boyne to the peace of Utrecht. The medals were principally executed by the brothers Jan and Martin Smeltzing, Jan Boskan and others. The occasions were numerous for granting medals, and the practice of rewarding merit with them became so general that it was expressly recognized by the legislature; and with Queen Anne terminates the history of honorary medals.

In the reign of George III., three classes of medals were issued. 1. Naval medals ; 2. Military ; and 3. Miscellaneous.

The first naval medal was granted for the first victory gained by Earl Howe, on the 1st June 1794, over the French fleet.

The glorious victories in the Peninsula caused two gold medals to be instituted. There have been altogether twenty-four battles, actions, sieges, or assaults,

for which the military medals have been conferred. In July 1830, King William IV. was pleased "to command



PENINSULA GOLD MEDAL—Obverse.

that a silver medal be granted to such non-commissioned officers and soldiers for long service and good conduct."



PENINSULA GOLD MEDAL—Reverse.

In no reign, however, have so many honours and medals been conferred as in that of our Most Gracious Majesty Queen Victoria. These medals and decorations form in themselves a *résumé* of the naval and military history of her reign. To wear a medal on the breast is the ambition of every soldier and sailor. In England such distinctions are only awarded in the present day for distinguished war services, and hence it is that we rarely see either officers or soldiers decorated in the profuse manner that characterises many foreign nations. It is recorded that when Napoleon surrendered himself on board the *Bellerophon*, he was received by a captain's detachment of the Royal Marines. After acknowledging the salute, he minutely inspected the men, and

having remarked that they were very fine and well-appointed, the ex-Emperor added, "Are there none amongst them who have seen service?" Upon being told that nearly the whole of them had seen much service, he exclaimed, "What! and no marks of merit?" The officer explained that it was not customary to confer medals, except upon officers of the highest ranks. The conversation terminated by Napoleon remarking, "Such is not the way to excite or cherish the military virtues."

Sailors and marines of the present day are the fortunate possessors of medals and decorations which illustrate their services *per mare et terram*, but the officers of the Shannon Brigade wear both the Crimean and Indian Mutiny medals, while the Pearl's Naval Brigade, whose services in India are historical, numbered among their officers those who were decorated with the China medal for Fatshan Creek, the Baltic, the Crimean, the Legion of Honour, the Medjje.

Illustrating, as these medals do, the victories of our great generals and admirals, the gallant manner in which our soldiers and sailors successfully carried out their plans, it is not surprising, suggesting, as these medals, clasps, and decorations do, so many eventful services, that there should be found among the officers and soldiers who have retired from the service, some few, at least, who devote a portion of their time to making collections of medals.

"Medals," says Addison, "give a great light to history in confirming such passages as are true in old authors, in settling such as are told after different manners, and in recording such as have been omitted. In this case a cabinet of medals is a body of history. In fact, it was a kind of printing before the art was introduced."

By a medal is understood such metallic pieces as were never intended for circulation, but only issued as memorials or records of events.

One of the most prominent collectors of medals in the present day is General Fred Brine, R.E., to whom the writer is much indebted for much numismatic information and the privilege of inspecting his valuable collection of medals, probably the most complete in England since the dispersion of Captain Greg's famous collection of war medals, sold at Sotheby's in May last.

The first war medals given in England were for the naval victory over the Dutch Fleet off Texel, in 1653. Our military medals may be said to date from the beginning of the present century. Since then we have illustrations of almost every memorable victory. Thirty years ago, or soon after the Peninsula or war medal with its clasps, was distributed to a multitude of veteran claimants, the study of decorations was almost unknown. Attracted by beauty of design, rarity, some notable exploit, or the grand display they present with

their many coloured ribbons, collectors commenced the formation of cabinets. Much attention has since been given to the acquisition and preservation of badges of distinction, which illustrate the naval and military history of our country. Among the rare and valuable collection of war medals and decorations which have been gathered together, that in the United Service Museum may be mentioned as containing many uncommon examples. In the British Museum many of the early special presentation medals are deposited. The private collections of K. Stewart Mackenzie, of Seaforth, Major J. Lawson Whalley, J. P. Lancaster, Col. Eaton, and General Fred. Brine, R.E., are, perhaps, the largest and most complete.

Among the later *presentation* medals may be mentioned the North America medals, which were presented to the North American Indians for loyalty and military service during the reigns of George II. and George III.

Another class of medals was the *regimental*. These were presented as rewards for long regimental service, good conduct, merit, bravery, temperance, &c., to non-commissioned officers and privates by the officers of their regiments. In the collection of the British Museum there is one of the 13th Regiment, now 1st



GOOD-CONDUCT MEDAL, 13TH REGIMENT.

Somersetshire, Prince Albert's Light Infantry. On the *Obverse*, a bugle horn, a sphinx, and Egypt above; on the *Horn*, *Ava* and *Martinique* inscribed; in the centre, the regimental number XIII. *Legend*—Medal of Merit for fourteen years good conduct. *Reverse*, plain silver medal.

The following medals have been selected by General Brine, R.E., from his collection, to illustrate the text, both on account of their rarity and beauty of design.

THE BATTLE OF DUNBAR. CROMWELL. 1650.—On the *Obverse*, bust of Oliver Cromwell in armour; hair long, and scarf festooned upon the breast; in the distance, battle. *Legend*: The Lord of Hosts. Word at Dunbar. Septr. y. 3, 1650. On truncation, T. Simon, F. *Reverse*, the Parliament assembled in one House with the Speaker. *Extremely rare*. Oval medal, two sizes,

in gold and silver. This piece was beautifully executed by Thomas Simon, and was issued as a military reward for those present at the Battle of Dunbar, 3rd Sept. 1650. It has a ring for suspension. The Ob-



DUNBAR MEDAL.

verse without the Reverse is less rare. In the Medallic Illustrations the Editor writes: "These must have been struck, at a later period, after the die of the Reverse had been lost, for a flaw appears at the top of the head and the surface of the die has become damaged by rust. These defects do not appear in the earlier impressions with the Reverse." The Dunbar medal is the first given generally to officers and men, as is the present practice, and no instance occurred of a general distribution of medals by the Sovereign's command until that for Waterloo was authorized.

THE NAVY GOLD MEDAL.—On the *Obverse*, Victory, with palm branch, placing a laurel wreath on the head of Britannia, who stands helmeted on the prow of a galley; her right foot resting on a helmet, her left arm



NAVY GOLD MEDAL.

supported by a *hasta*; at her side the Union shield. *Reverse*, inscribed, Captain of H.M.S. *Leander*, on the 1. of August MDCCXCVIII. *Legend*: Thomas Boulder Thompson, Esq. The French Fleet defeated. Ribbon, white, blue edges. Medal enclosed within a gold rim and glazed. In two sizes, 14½ and 9½. The larger for flag officers, the smaller for captains. Twenty-three of

the large size were given, and one hundred and seventeen of the smaller. Rarity. Very rare.

SERINGAPATAM (H.E.I.C.), 1799.—On the *Obverse* of this medal is the British Lion standing over a prostrate Tiger, the emblem of the late Tippoo Sultan's Government, with the period when it was effected, and the following words in Arabic on the banner :—*Assud-otta-ul Ghaulib*, signifying, the Lion of God is the Conqueror, or, the Conquering Lion of God. On the *Reverse* is represented the troops storming the citadel,



SERINGAPATAM MEDAL.

from an actual drawing upon the spot, with the meridian sun denoting the time of the storm, and the following description, in Persian, underneath :—“The Fort of Seringapatam, the Gift of God, 28th month. Trikadah.” *Ribbon*, dark yellow. Rarity. Original medals rare. The medal was conferred upon all troops present, officers and soldiers, Europeans and natives. The fortress of Seringapatam, the capital and stronghold of Tippoo Sahib (one of England’s most redoubtable enemies in India), was invested by an army under General Harris, 5th April 1799. On the 14th April he was joined by Major-General (afterwards Sir David) Baird, and, on the 4th May following, the place was carried by storm, Tippoo Sahib being amongst the slain. For this achievement, General Harris was created Lord Harris of Seringapatam. To the late 73rd Regiment seems to have fallen the greatest share of glory, and, on being raised to the Peerage, Lord Harris adopted for the dexter supporter of his arms a grenadier of that late distinguished regiment. The medal was conferred upon all troops present; gold to the Commander-in-Chief and principal officers; silver gilt to field officers and staff; silver to captains and subalterns; bronze to non-commissioned officers and men; tin to Sepoys. At first this medal was not allowed to be worn by the officers on great public occasions, as being presented at Court and at the military levees of H.R.H. the Commander-in-Chief. But on a representation being made to the Prince Regent, His Royal Highness at once granted his gracious

permission “that such officers may wear their medals in any part of His Majesty’s Dominions.”

THE MAIDA GOLD MEDAL, 1806.—In commemoration of this victory, a gold medal was struck and conferred upon all the superior officers who were present. On the *Obverse* is the head of King George III.—*Georgius Tertius Rex*. The *Reverse* has Britannia brandishing a spear with her right arm, and on her left a shield charged with the crosses of the Union Banner. A flying figure of victory is crowning her with a wreath of laurel, behind Britannia is the Triquetra or Sicilian Trinæria, and before her is inscribed *MAI | DA | IVL : IVL. MDCCCXVI* in the field. Round the edge the name and rank of the officers were engraved. There was only one size of this medal, which was worn both by general and field officers from the button-hole of their uniforms to a red ribbon with blue edges and a gold buckle. The issue was limited to the commander of the forces engaged, officers in command of brigades, battalions, or of corps equal to a battalion, or the officer who succeeded on the removal from the field of the original commander, and the deputy quarter-master general. As a general rule, no officer below the rank of major was considered



MAIDA GOLD MEDAL.

eligible, unless he succeeded to the command of a battalion during the action. The medal is very rare. The following regiments have the word “Maida” on their colours: 20th, 27th, 35th, 58th, 61st (flank companies), 78th, and 81st.

THE PENINSULA GOLD CROSS, 1808–1814.—This is a massive Maltese cross, awarded to distinguished officers for services in the Peninsula, Java, Martinique, North America, &c. *Obverse*, the names of battles inscribed in four laureated compartments; on the centre, a lion statant; above, a laureated ring, swivel, and inscribed clasps. *Reverse*, the same. Name engraved on the edges. *Ribbon*, crimson, blue edges. Rarity. Exceedingly rare. The picture of the gold cross is taken from General Brine’s collection. In the compartments are inscribed Talavera, Nive, Orthes, Toulous. On the

clasps, Pyrenees, Nivelle. Officers, in the course of the war, had received so many medals, that it became extremely difficult to wear them, and it was the practice for a short time to engrave the names of the second or third action on the medal originally given to them.



PENINSULA GOLD CROSS.

It was afterwards determined that only one medal should be worn by any officer, for every other action in which he might distinguish himself, a gold clasp, with the name of the event, was to be attached to the ribbon, until two clasps had been received. On the next occasion whereon he might signalise himself, a gold cross, having on each compartment the names of each of the four services, was to be conferred instead of the medal and clasp originally received. For every subsequent action, a clasp was to be issued, to be attached to the ribbon above the cross. Wreaths of laurel surround the names of the actions on the clasps. The Duke of Wellington's cross, which still remains at Apsley House, has nine clasps, the largest number of any officer who served in the Peninsula campaigns.

THE ARCTIC MEDAL, 1818-55.—Is one that is highly prized by navigators. On the *Obverse* is the head of the Queen, VICTORIA REGINA. *Reverse*, a ship fixed in ice, with icebergs on either side. In the foreground a number of sailors drawing a sledge; above—FOR ARCTIC DISCOVERIES. Exergue, 1818-1855. Surmounted by a star, to which is fixed a ring for suspension. *Ribbon*, white. *Medal*, silver octagonal. *Rarity*. With recipient's name, rare; without, not rare.

ARMY OF INDIA MEDAL.—On the *Obverse*. Diademed head of the Queen, Victoria Regina. *Reverse*, Victory seated, holding in her right hand a laurel branch, in

her left a victor's wreath. At her feet a trophy of arms, behind which rises a palm tree; above—To the Army of India. Exergue, 1799-1826. *Ribbon*, pale blue.

Her Majesty, under the General Order dated 21st March 1851, signified her assent to a measure proposed



ARCTIC MEDAL.

by the Honourable East India Company, for granting honorary distinctions to the surviving officers and soldiers of the Crown who were engaged in India from the storming of Allyghur 1803, to the siege of Bhurtpore 1826. The following is a list for which medals with clasps have been granted:—

Storm of Allyghur	4th September 1803.
Battle of Delhi	11th September 1803.
Battle of Assaye	23rd September 1803.
Battle of Laswarree	1st November 1803.
Battle of Argaum	26th November 1803.
Siege and storm of Gawilghur	15th December 1803.
Defence of Delhi	October 1804.
Battle of Deig	23rd December 1804.
War in Nepaul	1816.
Battle of Kirkee	November 1817.
Battle and capture of Poona	November 1817.
Battle of Seetabuldee	Nov. and Dec. 1817.
Battle and capture of Nagpoor	Nov. and Dec. 1817.
Battle of Maheidpore	21st December 1817.
Defence of Corygaum	1st January 1818.
War in Ava	1824-1826.
Siege and storm of Bhurtpore	January 1826.

Since the Commonwealth, but few medals and decorations have been instituted. It would seem to have been reserved for our gracious Queen to show the deep interest she takes in the heroic deeds of her soldiers and sailors. On the 1st June 1847 the general order for the distribution of the Peninsula medal was issued, and in January 1856 the Victoria Cross was instituted, and is the most coveted of all British orders and distinctions. Numerous other orders and medals have been instituted

during Her Majesty's reign, which will be described in a subsequent paper.

Tabulated list of military orders and decorations and naval and military war medals in General Fred. Brine's (R.E.) collection :—

1st Row. Military Orders and Decorations.

No.	Year.
1. Military Order of the Bath (K.C.B.), three classes	1899-1815
2. St. Maurice and St. Lazarus—Italy	1434-1855
3. Tower and Sword—Portugal (K.T.S.)	1459
4. Maria Theresa—Austria	1757
5. Charles III.—Spain	1771
6. Legion of Honour—France (K.L.H.), five classes	1802
7. Lion and Sun—Persia	1808
8. San Fernando—Spain (K.F.)	1811
9. Isabella the Catholic—Spain	1815
10. Guelphic Order of Hanover (K.H.), three classes	1815
11. Maria Isabella Louisa—Spain	1833
12. Order of British India—(Native Officers), two classes	1837
13. Indian Order of Merit—(Native Troops), three classes	1837
14. Medjidie—Turkey (M.)	1852
15. Military Order of Savoy—Italy	1855
16. „ Victoria Cross (V.C.)	1856
17. Naval „ „ „	"
18. Osmanieh—Turkey, four classes	1861
19. Chinese Imperial Decoration (Red Button)	1864
20. New Zealand Order of Valour	1871
21. First Class Order of Merit (Commissionaires), three classes	1883

2nd Row. Naval and Military War Medals.

1. Earl of Essex	1642
2. Royalist Badge—Charles I. (crowned)	1643
3. Fairfax Medal—Battle of Naseby	1645
4. Battle of Dunbar—Cromwell	1650
5. Charles II., Dominion of the Sea	1665
6. Battle of the Boyne—William III.	1690
7. „ „ La Hogue—William III. and Mary	1692
8. Combined Attack on Vigo—Spain	1702
9. Capture of Gibraltar—Rooke	1704
10. Battle of Blenheim—Marlborough	"
11. Capture of Barcelona—Peterborough	1706
12. Battle of Ramillies—Marlborough	"
13. „ „ Oudenarde „ „	1708
14. „ „ Malplaquet „ „	1709
15. Bombardment of Carthagena — South America—Vernon	1741

No.	Year.
16. Cattle of Culloden—Cumberland, three kinds	1746
17. Battle of Minden	1759
18. Defence of Gibraltar—General Elliott	1782
19. Deccan-Medal, H.E.I.C., two sizes	1742
20. Mysore „ „ „	1791-1792
21. Naval War Medal—except Burmah, 1824-26, 202 clasps	1798-1840

3rd Row.

1. Naval Gold Medal, two sizes	1794-1815
2. Ceylon, H.E.I.C.	1795-1796
3. Davison's Nile	1798
4. Seringapatam, H.E.I.C., five kinds	1799
5. Earl St. Vincent's Testimony	1800
6. Sultan's Large Gold Medal—Egypt, three sizes	1801
7. 1st Egypt, H.E.I.C.	"
8. Military War Medal, twenty-eight clasps	1801-1814
9. Old Indian „ twenty-one clasps	1803-1826
10. Boulton's Trafalgar	1805
11. Maida Gold Medal	1806
12. Peninsula Gold Cross, nine clasps	1806-1814
13. Military Gold Medal, eight sizes, two clasps	1808-1814
14. Rodriguez, Bourbon and Isle of France	1809-1810
15. Conquest of Java, H.E.I.C.	1811
16. Nepaul, H.E.I.C.	1814-1816
17. Quatre Bras and Waterloo	1815
18. Portuguese Peninsula Cross	1816
19. Arctic Discoveries	1818-1855
20. 1st Burmah, H.E.I.C.	1824-1826
21. Long Service and Good Conduct (Military)	1830

4th Row.

1. Long Service and Good Conduct (Naval)	1831
2. South Africa	1834-1858
3. Spanish Legion—St. Sebastian	1836
4. Long Service and Good Conduct (Naval)	1837
5. „ „ „ (Military)	"
6. Ghuznee—Shah Soojah, Afghanistan	1839
7. St. Jean d'Acre—Syria (Turkish), three kinds	1840
8. 1st China	1840-1842
9. Candahar—Afghanistan	1842
10. Jellalabad—Mural Crown, Afghanistan	"
11. Flying Victory (2nd), Afghanistan	"
12. Ghuznee-Cabul (2 wreaths), Afghanistan	"
13. Candahar, Ghuznee, Kabul, „ „	"
14. Cabul, Afghanistan	"
15. Kelat-i-Ghilzie, Afghanistan	1842-1843
16. Meeanee—Scinde	1843
17. Meeanee—Hyderabad, Scinde	"

No.		Year.	No.		Year.			
18.	Hyderabad—Scinde	1843	11.	Arctic Medal	1875-1876			
19.	Maharajpoor Star—Gwalior	"	12.	Empress of India, two kinds	1877			
20.	Punniar Star—Gwalior	"	13.	South Africa—Zulu War, six clasps	1877-1879			
21.	Meritorious Service (Military Sergeants)	1845	14.	Afghanistan, six clasps	1878-1880			
5th Row.								
1.	Sutlej-Moodkee, three clasps	1845	15.	Roberts' March—Kabul to Kandahar— Afghanistan	1880			
2.	" Ferozeshuhur, two clasps	"	16.	Egypt, eleven clasps	1882			
3.	New Zealand	1845-1847	17.	Khedive's Star, eleven clasps	"			
4.	Sutlej-Aliwal, 1 clasp	1846	18.	Soudan Medal	1884-1886			
5.	" Sobraon	"	19.	Khedive's Star	1884			
6.	Long Service and Good Conduct, H.E.I.C.	1848	20.	Gordon's Star—Khartoum, A.H., 1801, three kinds	1884-1885			
7.	Meritorious Service	"	21.	Canadian, N.W. Revolt (Riel)	1885			
8.	" (Marine Sergeants)	"	7th Row. Life Saving, &c.					
9.	Punjab Campaign, three clasps	1848-1849	1.	Royal Humane Society (Right Breast), three kinds, and four clasps	1774			
10.	India Medal, ten clasps	1849-1858	2.	National Life Boat Institution, two kinds, two clasps	1824			
11.	Defence of Silistria (Turkish)	1854	3.	Saving Life—King Louis Phillippe— France	1893			
12.	Danube Medal	"	4.	Royal Society, Saving Life—Fire	1836-1843			
13.	Baltic	1854-1855	5.	Shipwrecked Mariners, London, two kinds, one clasp	1899			
14.	Crimea, five clasps	1854-1856	6.	Liverpool Humane Society (Oval), three kinds, seven clasps	1899			
15.	Distinguished Conduct in the Field, one clasp	1854	7.	Liverpool Humane Society, three kinds	"			
16.	Conspicuous Gallantry (Naval)	1855 & 1874	8.	Humane Society—Paris	1842			
17.	French War Medal	1855	9.	Medal of Isabella II., Queen of Spain	1846			
18.	Turkish "	"	10.	Order of Merit—Liverpool Police	1851			
19.	Sardinian War Medal	"	11.	Saving Life from Drowning—Tynemouth	1856			
20.	Kars (Turkish)	"	12.	Tayleur Medal—Ireland	1861			
21.	2nd China, 5 clasps	1856-1860	13.	Jersey Humane Society, three kinds	1865			
6th Row.								
1.	India Mutiny, five clasps	1857-1859	14.	Medal of Honour—Emperor Napoleon III.	1866			
2.	Papal Brigade (Irish Volunteers)	1860	15.	French Ambulance Cross	1870-1871			
3.	New Zealand	1860-1866	16.	Stanhope Medal, R.H.S.	1873			
4.	Chinese Imperial Decoration (Crystal Button)	1862	17.	Order of St. John—Saving Life—Land, two kinds	1874			
5.	Abyssinia	1867-1868	18.	Medal of Honour—French Republic	1876			
6.	Albert Medal (2nd class), Saving Life at Sea, two classes	1867	19.	Metropolitan Fire Brigade (Bravery) two kinds	1876			
7.	Best Shot of the Army (Right Breast)	1869-1883	20.	Balloon Society of Great Britain	1882			
8.	" " Native Armies in India.		21.					
9.	Ashantee	1873-1874						
10.	Livingstone, R.G.S.	1874						



RUSSIAN NOVELTIES.

NEW RUSSIAN RAFT.

AN experiment was made last year at St. Petersburg, on the Lesser Neva, before the Head-quarters Staff of the Russian Army, with a new light raft, for the transport of troops. The raft is of easy construction, consisting of four poles, the thickness of ordinary carriage poles, about twelve feet long. These are roped together so as to form a frame, at the angles of which are placed bags of cow-hide. The hairy side is within, and all cracks or rents are carefully sewn and smeared over with pitch, with the exception, of course, of one hole, which carries a tube, by which the leatheren bag is inflated.

Across the floating frame are placed boards, on which are stacked the arms and equipment of the men. One man is told off to each angle of the raft, and each, armed with an ordinary scull, paddles the improvised craft.

At the trial mentioned, the whole time spent in preparation, including the inflation of the bags, did not exceed five minutes.

The experiment was made by a mixed squadron furnished by the 1st and 2nd Divisions of the Cavalry of the Guard, under the command of a captain. The raft was steered by men from the Caucasus, whence were brought the cow-hide bags. The rafts floated well; and with twenty-five men on each, fully armed

and equipped, the bags were only one quarter submerged.

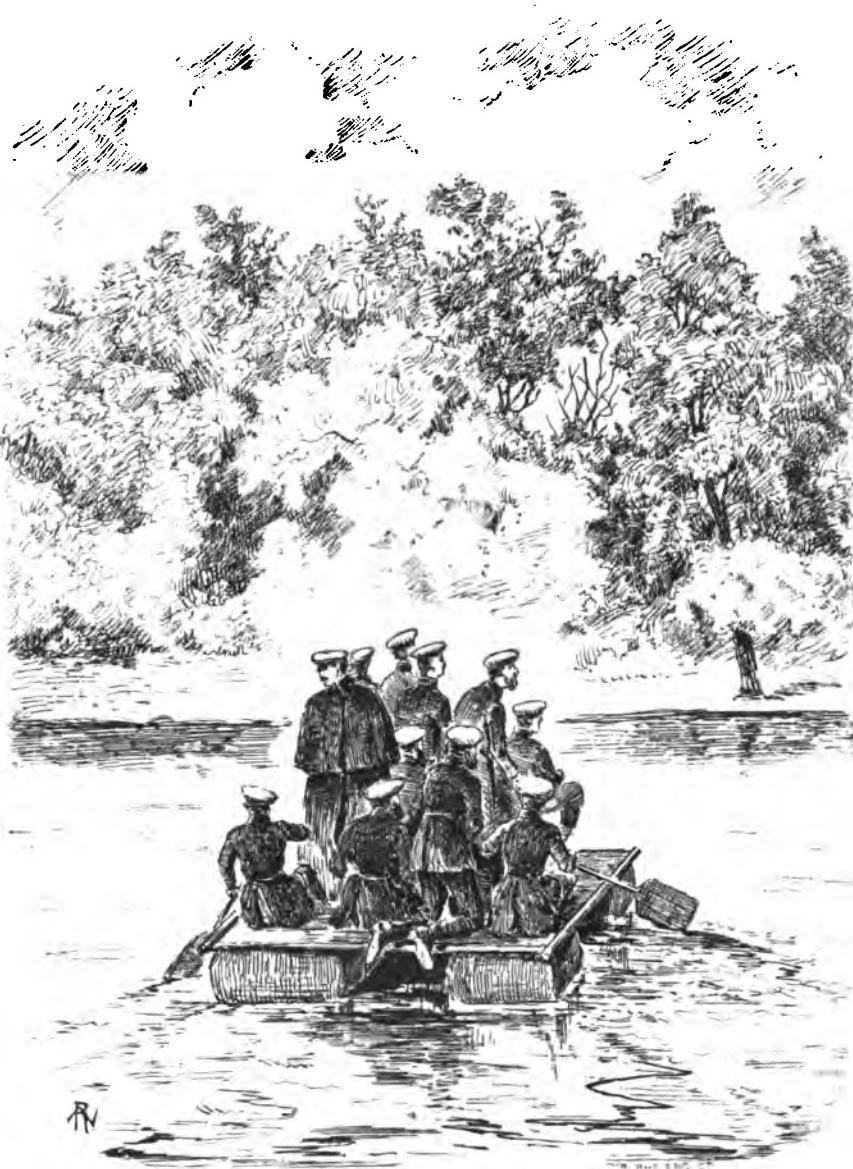
A second trial was made with a gun from the 5th battery of Horse Artillery, with its *personnel* and full appliances. For this purpose six bags were used, and some extra transverse boards. The success of the arrangement was complete, and the gun with its carriage and twelve men were safely ferried over.

The next trial made was with cavalry. The troopers placed their saddles and all equipment, bridles excepted, on the raft, and, mounting their horses, swam them over the river, and, notwithstanding the temperature, 12° Reaumur = 59° Fahrenheit, the horses were resaddled, and the men formed up mounted on the opposite bank within 40 minutes.

The experiments made on the Neva were so successful that further trials were carried out at the grand manœuvres at the Camp of Krasnoé-Selo.

However novel this raft may be in Russia, the principle of its construction is not new. During the Franco-German War, an officer of French Engineers constructed a raft on a very similar plan, and it possessed the advantages of being packed in a small compass and easily transported.

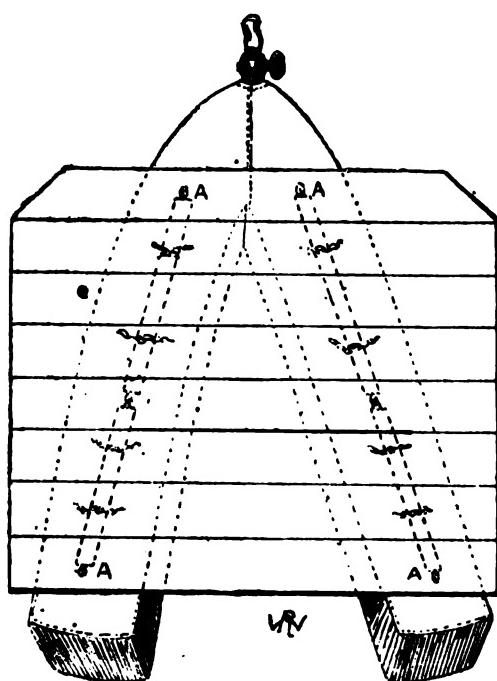
Our diagrams show, (1), the raft mounted; (2), the air-bag packed; and (3), the platform, folded and ready for carriage. The air-bag was made of a double sack,



NEW RUSSIAN RAFT.

V shaped, of sail-cloth, strongly varnished with a mixture of linseed oil, tallow, and resin. Each sack was made

apparatus was inflated, either by an ordinary bellows or by an air-pump. The flooring of the raft was hinged



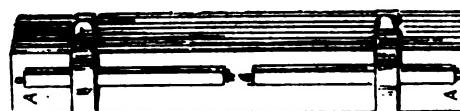
1. THE RAFT MOUNTED.

of two pieces, double stitched, and joined at an angle of 45 degrees. At the junction was fixed a copper tap, fitting into an india-rubber pipe, through which the



2. THE AIR-BAG PACKED.

in the centre to pack away in a small compass, and the ends were provided with two movable wooden bars, fixed to the platform by double rings. To rig up the



3. THE PLATFORM FOLDED AND READY FOR CARRIAGE.

raft, the air-bag was first inflated, and the movable bars lashed on with thongs. Then the platform, superlaid, the extemporized vessel was punted with a pole, or sculled with an oar. The flooring was 8 feet square, and the raft could easily carry fifteen men, fully armed and equipped. Evidently it could have been constructed on a larger scale, but the above size was generally adopted to ensure facility in transport.

RUSSIAN RIFLE PRACTICE.



THE Russians bestow more attention every year on the musketry instruction of their troops, and are obtaining improved results. Two regiments take part in the same course of musketry. The targets consist of coloured silhouettes representing men, life-size, standing, kneeling or lying down, according to the length of range to be fired at. In addition to the above, targets are used representing mounted troopers. The officers of one regiment keep the score for the other. Shooting parties are generally divided into companies of forty files, and the exercise is invariably superintended personally by a field officer.

Individual practice proceeds very slowly, and it is evident to spectators that

the men make every effort to do their best, but, speaking generally, they dwell too long on their aim. In a communiqué to the *Revue du Cercle Militaire* the writer says, "We have seen men come down from the 'present,' rest, and take aim again four times before firing, without being checked by the officer instructor. On the contrary they are advised to take their own time rather than fire with an uncertain aim. We doubt the expediency of teaching field firing in this manner, for these slow and methodical processes would not be observed by the best disciplined troops when in action."

The distances fired at vary from 300 to 800 paces. Under these conditions some companies scored 65 per cent. of hits; and one

company volley firing at 800 paces, at targets representing a section of twelve files, made in the hundred shots the respectable average of sixty-one.

The use of coloured silhouettes renders the shooting more attractive and instructive. For preliminary practice targets are employed, of a chess-board pattern, having a long black vertical band with a central disc containing a white bull's-eye.

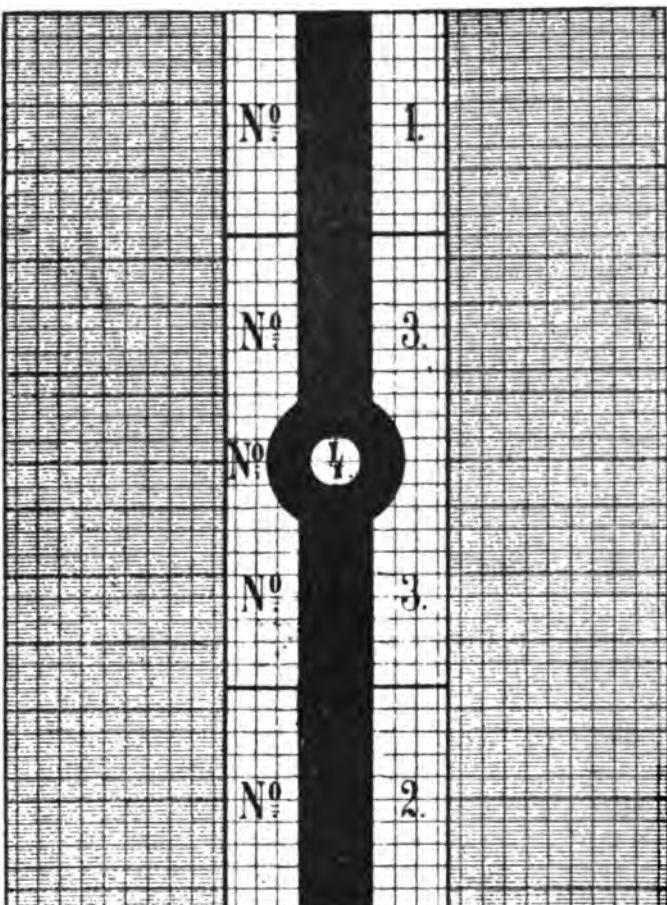
On the conclusion of the men's practice, the company officers fire two shots at 200 paces at a man's figure erect. They proceed with the same deliberate slowness as the rank and file. "None of them missed," says the correspondent above quoted, "and the greater number (of whom all were captains) made bull's-eyes with their two shots."

Musketry practice is conducted with the greatest strictness in the Russian Army, and General Officers commanding Cavalry and Infantry are not exempted from going through the annual course.

Russia, it may be observed, is the only European nation which has not finally decided to adopt a magazine

rifle for her military service. This fact, taken in connection with the slow and deliberate manner in which the course of musketry practice is conducted in that country, and the inducement given to men to dwell upon their aim, would point to the probability of the Russian military authorities disapproving of giving any opportunity for men to break the "fine discipline" so essential for effectual shooting. For long in this country the most competent military officers took the same view of the question, and it was not until all European nations (Russia excepted) had gone in for the repeating rifle, that they felt they, too, must go with the times. Russia cannot be supposed to hold back from adopting the repeating rifle on the score of economy, for she can and does always find money for any and all warlike purposes. Possibly "slow and sure" in musketry is Russia's motto, and the

military chiefs in that country prefer steady aim and deliberate fire to the wild and random shooting that is sure to take place at that critical time in modern warfare now euphemistically called "the supreme moment."



NAVAL AND MILITARY NOTES AND QUERIES.

THE following notification of the movements of regiments from one station to another in 1888 has been received at Aldershot from the Quartermaster-General's Department, Horse Guards:—1st Manchester Regiment, from Aldershot to Ireland; 1st Liverpool, from Ireland to Preston; 1st Gloucester, Preston to Ireland; 2nd Leinster, Ireland to Shorncliffe; 2nd King's Royal Rifle Corps, Shorncliffe to Ireland; 1st Oxford L.I., Shorncliffe to Parkhurst; 1st King's Royal Rifle Corps, Parkhurst (I.W.) to Aldershot; 1st Royal Munster Fusiliers, Dover to Aldershot, next month; 2nd Royal Irish Fusiliers, Aldershot to Dover; 1st Cameron Highlanders, Devonport to Edinburgh; 1st Seaforth Highlanders, Edinburgh to Ireland; 1st Derbyshire Regiment (the Sherwood Foresters), Ireland to Glasgow; 2nd Royal

Scots, Glasgow to Aldershot; 2nd King's Own Scottish Borderers, Aldershot to India; 1st Leicestershire Regiment, York to the West Indies; 1st East York, West Indies to South Africa; 1st Royal Inniskilling Fusiliers, South Africa to Portsmouth; 2nd Connaught Rangers, Portsmouth to Aldershot; 2nd Royal Inniskilling Fusiliers, Aldershot to India; 2nd East York, Aden to home; 2nd Cheshire, Burmah to Manchester; 1st Lancashire Fusiliers, Manchester to Guernsey; 2nd Border Regiment, Guernsey to India; 1st Gordon Highlanders, Malta to Ceylon; 1st Argyll and Sutherland Highlanders, Ceylon to Hong Kong; 1st Northamptonshire Regiment, Hong Kong to Halifax, N.S.; 2nd South Lancashire, Singapore to Egypt; 1st Welsh Regiment, Egypt to Aldershot.

A NEW LIGHT ON SOLDIERS' HYGIENE.



T might be supposed that the subject of Soldiers' Hygiene had been discussed from every possible point of view, but, so far as our personal information goes, the question raised by the celebrated "all-wool" of Dr. Jaeger, is new. In any case it has never been thoroughly considered, and we believe that we shall do good service in announcing the new view which Dr. Jaeger takes of what he considers to be a serious disregard of hygienic laws in a direction which has hitherto escaped attention. In *Essays on Health Culture*, by C. Jaeger, M.D., translated and edited by Lewis R. S. Tomalin, appears, among much other novel and striking matter, an article headed, "The Soldier's Uniform."

At the outset, it is asserted that "the treatment of the men must be directed to getting them into condition, i.e. to training and hardening them. The means by which this is accomplished in the army are the same as in the case of race-horses—sweating induced by bodily exercise. Now, in training horses, experience has established beyond all dispute that the necessary degree of hardening is attained much more quickly and completely when the animal is covered with pure woollen clothing; and in England, where training is most practised, rowing, boxing, and other sporting men train not only by means of sweating exercise, but also with help of the sanitary woollen system, i.e. by wrapping themselves in wool during the exercise. Clearly, what is good for athletes and race-horses is also good for soldiers."

It may be assumed that most people know something of the Jaeger Reforms of Clothing and Bedding. Still, there is one point about these reforms, which many people seem to have a difficulty in grasping, and yet it seems simple enough, until one tries to think out what it means, and to apply the principle to every article of clothing and bedding for men, women, and children. For this is what the Jaeger system does, wholly discarding as unsanitary vegetable fibre materials (i.e. linen and cotton) from bedding, from under-clothing, and from *linings to outer-clothing*. This last point is the leading ray in the new light shed by Dr. Jaeger on soldiers' hygiene. He desires that linen and cotton shall cease to be used as materials of underwear in the army, and that natural (undyed and unbleached) woollen materials should be substituted. But the main force of his attack on the neglect of hygienic considerations in

soldiers' dress, is levied against the "cotton lining and padding" in the uniform. We are reminded that uncleanliness in clothing has been at all times considered injurious to health, and the necessity for the constant cleansing of the clothing has been admitted. This is tantamount to an admission that the dirt in the clothes is something injurious, and, therefore, poisonous. Further, it is matter of general experience, that clothing of vegetable fibre, whether worn as under-clothing or as outer-clothing, much sooner needs cleansing than woollen fibre, which, again, is tantamount to an admission that the unwholesome element which characterizes unclean clothing, is to a much greater degree situated in the vegetable than in the woollen parts. The conclusion necessarily follows, that the vegetable parts of clothing, compared with the woollen, constitute a danger to health, and that their removal is a hygienic advantage.

Dr. Jaeger is, of course, correct when he points out that the perspiration from the skin saturates the lining of the uniform, and that, whereas when under-linen has been worn a few days it is condemned by instinctive feeling as dirty—saturated to an injurious extent with the skin's exhalation—the vegetable fibre lining, which is equally dirty, remains uncleansed for many months.

The objections which are thus shown to vegetable fibre as lining apply with equal force to padding and wadding. The rubbish which is inserted as padding in uniforms and coats in general becomes, as the Doctor energetically expresses it, an Augean stable of offensive odour, which it exhales whenever moistened or warmed, as of course it inevitably is on the body of the wearer.

For the scientific explanation of the deteriorative effect on the health of a constantly mal-odorous clothes atmosphere, we must refer our readers to the book itself, where Dr. Jaeger deals with the question at length. The economical side of the subject is not shirked by Dr. Jaeger, who admits that woollen lining is more costly than lining of vegetable fibre. He argues, however, that lining may be dispensed with altogether, and thus a positive saving be effected.

According to Dr. Jaeger, vegetable fibre in clothing, especially dirty vegetable lining, is a source of cold rather than of warmth; his reasons are given in full, and must be gathered from his book, as they are too lengthy to reproduce here; they appear, however, weighty and based upon physiological considerations and experiments not readily to be refuted. On the whole, he maintains that if the uniform fits tightly, to

which end he recommends "elastic, diagonally woven cloth, or the stockinet material used for riding breeches," the necessary protection will be afforded, and the necessity for lining, padding, &c., to make the uniform set well, will be avoided. In any case, he urges, "if a thin, woollen jacket, weighing no more than the coat-lining, be worn between coat and shirt, it will maintain the temperature of the body far more effectually than a lining of vegetable fibre, with the advantage that the jacket can be removed when not required. I do not even consider that soldiers require such jackets, for they have their overcoats or cloaks. If these be unlined, the cold must be very extreme for them to suffer inconvenience; and in a campaign like that of 1870, such jackets as I have described could, without great difficulty, be despatched to the army."

Sufficient has been said respecting this "new light on soldiers' hygiene," to show that it is deserving the serious study of army reformers, and we hope that the

impartial consideration which Dr. Jaeger claims for his views may be accorded to him.

A hint derived from this book may prove of much service to cavalry men, who have experienced the great inconvenience of the under-clothing becoming displaced during the hours which are passed in the saddle. The "rucking up" of the shirt till it becomes concentrated at a point where it seems only prevented by the arm-pits from getting away altogether, is not only exceedingly uncomfortable, but a source of no little danger from chill. To obviate this inconvenience, Dr. Jaeger recommends as a hygienic form of under-garment a combination of shirt and drawers in one piece. It is stated that this meets the emergency, as everything is thus compelled to remain in its place. Cavalry men will do well to make trial of the "combination" in order to effect a solution of a difficulty which, small as it appears, spoils the temper, distracts the attention of the horseman, while it may bring upon him an attack of rheumatism or lumbago.

NAVAL AND MILITARY NOTES AND QUERIES.

SHIELDS.—The invention of this destructive missile cannot be accurately traced. Shells were employed in 1480 by the Sultan of Gujerat, and by the Turks in 1522. The Spaniards and Dutch both used them during the War of Dutch Independence; and they appear to have been generally adopted by about 1634. As shells required mortars for their projection, they were not used in naval warfare until the French constructed special bomb-vessels in 1681; but since that period, shell-guns, being cannon of large bore, have been introduced, and are now employed by all ships of war. Since the introduction of rifled ordnance, the shell has become the commonest form of projectile. Several rival shells at present divide public favour, and compete for adoption into our service. Without noticing the numerous varieties which are in course of trial, the following are well-known competitors:—The *Armstrong* shell is a pointed bolt of iron (usually percussion), containing an inner "segment shell," made up of forty-nine segments of cast-iron. Seven of these segments from a circle, or ring, and seven circles give the necessary length. A coating of lead affords a soft medium for fitting into the grooves of guns. The shell thus made somewhat resembles a bottle without a neck. The necessary bursting clay having been inserted, the rear end is plugged with lead, the fuse is screwed into the front, and the shell is ready for action.

This projectile has a great and accurate range, and its segments cannot fail, on explosion, to do great damage. The principal draw-back has been found in the lead-casing, which is often thrown off in parts soon after the shell leaves the gun, and which thus falls among the foremost ranks of the army using it, sometimes inflicting severe wounds. The *Whitworth* shell is an elongated hexagonal bolt of iron, or steel, cast in one piece, and with a bursting charge at the rear end. It explodes on percussion; but the space allowed for the burster is deemed insufficient to produce the full effect which the length and correctness of the weapon give cause to expect. The *Lancaster* shell is oval, to fit the bore of the *Lancaster* gun. *Martin's* shell is charged with molten iron, which sets on fire all combustible matter on which it can be thrown. The *Diaphragm* shell, invented by Colonel Boxer, R.A., has an iron division or diaphragm to separate the powder in the shell from any balls or slugs, in order that the friction of the latter may not prematurely cause the powder to explode. A six-pounder diaphragm shell contains thirty carbine balls, an eight-inch shell, 322 musket balls. The *Palliser* shell, which is now employed in the service, is chiefly remarkable for the hardness imparted to its fire-point, by a process of "chilling" during casting. This gives it a great power of penetration into iron plates, &c. R. O'BRYNE.

INVENTIONS APPLICABLE TO THE SERVICES.

ANCIENT AND MODERN TENTS.



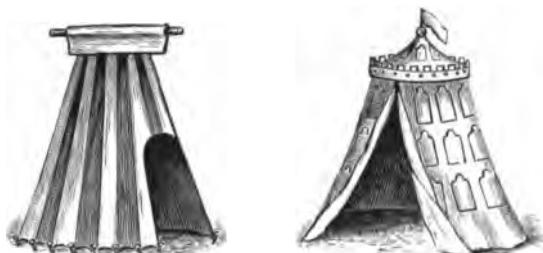
OLOMON'S dictum as to there being nothing novel in the solar system is strictly applicable to the matter of tents, which form of shelter has remained stationary for years, as though incapable of improvement. Reference to our illustrations of ancient tents shows that in A.D. 174, and again in 1016, tents differed but little from the marquee and bell tent of our own day, and the patterns of tents now used by the English Government vary little from those in vogue 850 years ago.

Captain H. R. Newburgh-Stewart, R.N., has, however, come forward to break the monotony in this direction



REPRESENTATION OF TENT ON THE COLUMN OF ANTONINUS,
A.D. 174.

by introducing a new type of tent, which appears to possess several advantages over the existing forms of military tents. The originality claimed for the tent chiefly lies in the absence of pegs and poles, by which the area of the tent is increased and its weight for transport purposes decreased. Captain Newburgh-Stewart's principle is illustrated by a tent of 13 ft. in diameter



ANGLO-SAXON TENTS, A.D. 1016.

and 11 ft. in height. This tent is supported by eight ribs of American elm resting upon the ground; while the place of the pole is supplied by hauling ropes descending from the apex of the roof to a holdfast driven into the earth in the centre of the tent. With the canvas drawn taut the tent assumes the shape of a bee-

hive, in contrast with the sharp-rising conical form which distinguishes the service tent. The tent in shape is not unlike those which our visitors from the Central Asian steppes set up at South Kensington at the time of the Health Exhibition; and, as Captain Newburgh-Stewart observes, the gipsies have always had a partiality for this shape, the only difference in principle between their tents and this latest shape being that they failed to perceive the advantage to be gained in the



PERSIAN TENT OF THE ELAUTS.

increase of breadth by pulling down the apex. Despite the absence of poles, this "Expanding Balloon Tent" can be raised on sand, even on rock, lava, asphalte, or iced glacier; for failing the presence of earth, the hook of the tackle is fixed to a box of ammunition, a package of tinned meats, a bag of stones, or whatever may be handiest, the only condition being that the make-weight shall be sufficient to supply the necessary balance. In fine weather this balance-weight may hang at the top of



HOTTENTOT'S TENT.

the tent, but in a gale of wind the security of the tent will be increased by fixing it upon the ground—"in fact, anchoring the tent like a ship."

As we have explained, the tent under normal conditions stands without pegs and ropes. Provision against stress of weather, however, is supplied in the form of four iron holdfasts, which in the event of a storm are fixed into the ground by long and light iron pins. Another notable feature of this tent is the canvas door, which rolls up and down like a window blind, a device

which Captain Newburgh-Stewart rightly considers an improvement upon the old method of tying and untying the entrance, the untying sometimes leading to serious delays on occasions of sudden alarm. There is an expedient, too, for preventing dust or sand from driving

of the elm ribs, but this is more than counterbalanced by the loss of the pole and extra pegs and lines required in all other tents. You take with the tent four iron holdfasts with the same number of short lengths of cord; but you get rid of forty tent-pegs,



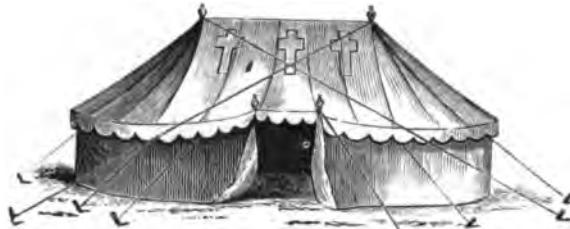
FUEGIAN WIGWAM.



NAVAJO WIGWAM.

under the tent. A further detail, which will be appreciated by all who have lived in tents, is that the tent expands and contracts automatically in wet and dry weather. The ropes used with the existing tents contract about six inches in wet weather, and invariably split the

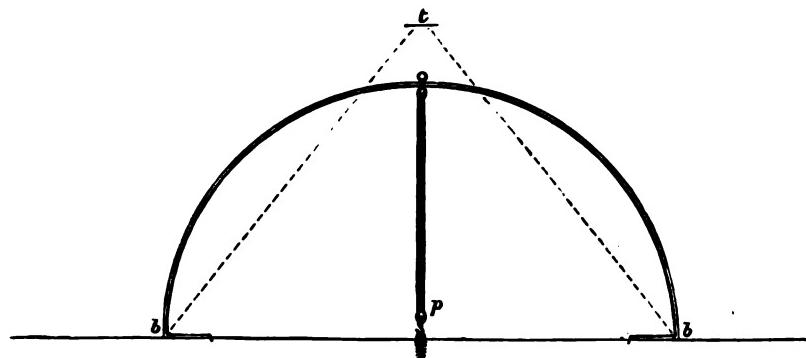
each weighing about 1 lb., equal to 40 lbs., and forty 5-ft. lengths of line, in all 200 ft. As an Indian service tent requires 100 pegs, each weighing about 3 lb., equal to 300 lb., and 100 20-ft. lengths of half-inch rope, equal to 2,000 ft.—and this alone speaks for



ENGLISH TENTS, A.D. 1750.

canvas unless immediately slackened up. The change from the conical to the bow form, not to mention the disappearance of the pole, materially increases the stability and capacity of the tent—at least, a much greater number of men can stand upright in a tent

itself—Captain Newburgh-Stewart calculates that a saving of 20 tons of transport would be effected by the adoption of his tent in every regiment of one hundred tents of the Indian pattern. The inventor claims that the tent can be put up in two minutes, the upper part

A SECTION SHOWING DIFFERENCE OF SIZE BETWEEN THE BELL TENT AND THE EXPANDING BALLOON TENT,
(p) representing the Tackle pulled down to screw Peg in the Ground.

on the beehive plan than in a tent on the present principle. Then, a still more important point—the decrease of weight; of course, there is an increase of weight in the new tent in canvas, for the expanding head-room obtained, and to the extent of the weight

of the ribs always remaining in the canvas. The shape of the tent, it is stated, can be modified to any extent by the cut of the canvas, and it is further claimed that the present service tent can be readily adapted to the Newburgh-Stewart system. It is also a notable fact and

a trite saying, "That we never know the worth of a thing until we lose it," and never was its truth so forcibly felt as on the memorable 14th day of November, 1854; on which the southern part of the Crimea was visited by a terrible hurricane of wind coming in sudden

simplicity. They occupy less space in encampment than any other tent, while giving more head-room. Unparalleled facility in pitching and striking. They can be used in situations where the bell tent, or any other tent requiring poles and pegs, would be utterly useless. They



SINGLE TENT ERECTED AND SECURED BY STORM STAYS..

gusts, accompanied with drenching rain, followed in the afternoon by hail and snow. The British and Allied tents (the Turkish round tents excepted) were nearly all blown down and many of them destroyed.

Captain Newburgh-Stewart's expanding balloon tents

have double the stability of any other tent which has to depend upon its pegs and ropes alone, although any amount of pegs can be used if desired (but the inventor does not recommend pegs and ropes, as they involve extra weight, trouble, and expense). They always pre-



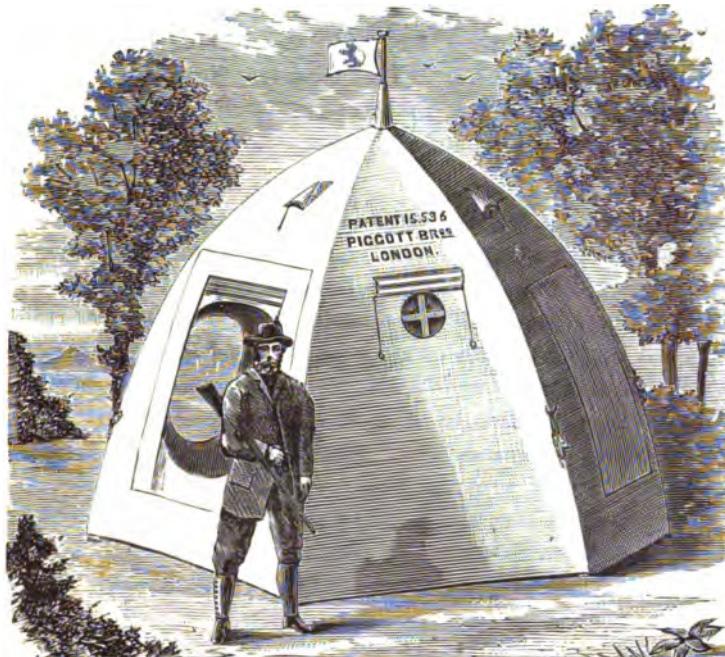
SHOWING TENT ERECTED WITH FLY ROOF, AND SECURED WITH STORM STAYS FOR A STRONG WIND.

require no poles, and combine the following advantages: —No pole is required, and only nine pegs in all weathers. They can be erected on a ship's deck, an asphalte road, a wooden floor, or on rock or loose sand, or ice glacier. They are unequalled for lightness, portability, and

sent a convex instead of a concave surface to the wind, thus bearing strains better than the bell tent. They expand and contract automatically in wet and dry weather without any attention. They can be made of any size or weight, with any number of doors, windows,

or ventilators, and they have fewer loose parts than any other tent known. The ribs divide into suitable lengths for carriage, and can be instantly and firmly connected. The lower edge of the tent can be rolled up two feet from the ground in hot weather, if required. They are light-tight and perfect for photographic development.

The great advantage of having a tackle instead of a pole in camp is that a pole becomes useless except for the support of a tent and to be made firewood of, whereas a tackle is most useful in many respects for hauling purposes when on the march.



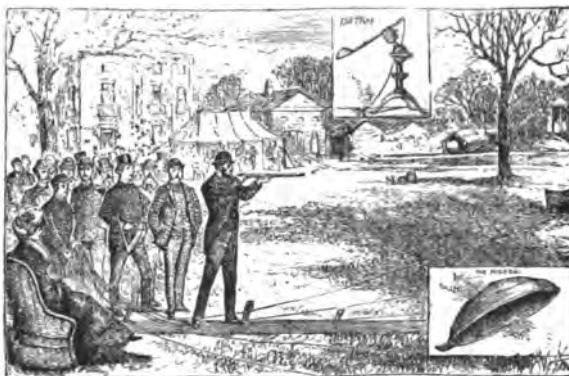
SKETCH OF AN 8-RIBBED TENT, ERECTED WITHOUT POLE, PEGS, STAY-ROPE, OR FLY-ROOF.



"THE HAVERSACK."



IGEON matches are now being gradually made illegal, in the various countries of Europe, and all true sportsmen maintain that Glass Ball Practice is simply ruinous to good shooting in the field. In order to overcome these difficulties, Mr. George Ligowsky has been experimenting during the last two years in perfecting a flying object, which would imitate the flight of a bird, and be sufficiently cheap to be within the reach of all. The admirable result obtained is now presented to the public in the shape of the Patent Flying Clay Pigeon, which is made of light, very brittle pottery clay, five inches wide by two inches deep, and which is thrown



from a patent trap, or catapult, in such a manner as to imitate exactly the flight of a pigeon or quail. When not hit, the clay pigeon does not break, and can be used again. "The great feature, therefore, of this invention is, that it enables a person to become a crack shot 'on the wing' without the use of pigeons or other live substitutes." In England it may be truly said that no country home is complete without an American Clay Pigeon Trap. In India, the introduction of the Ligowsky clay pigeons and traps will meet with general approval, and in the hot season, both morning and evening, will prove an endless source of amusement. Captain Bogardus, the inventor of the glass ball, says: "Clay pigeons are by far a superior article for the sportsman, the use of which perfects one rapidly as a 'wing shot.'" This ingenious invention has received the approval of the eminent sportsmen, Mr. Reginald Herbert and Mr. Cholmondeley-Pennel. The clay bird gives the true motion in the air necessary for wing-shooting, and will completely do away with shooting at tame pigeons, which is not only cruel, but unnecessary.

ONE of the principal attractions offered by the *Illustrated London News* for this year will be Mr. Black's new novel, entitled "The Strange Adventures of a House-Boat." The illustrations will be by Dudley Hardy and J. Bernard Partridge.

AMONG Collegiate Institutions, Stubbington House, Fareham, has again been the most successful during the past year in securing cadetships in the Royal Navy; and according to the Appendix to the Report of the Civil Service Commissioners (page 60), on the Education of Naval Executive Officers, more than one third of the successful candidates who enter the service are from Stubbington House. The whole of the candidates prepared for the army at this establishment have passed. The fact of the above uniform success is a guarantee that only well-conducted youths are suffered to enjoy the privilege of being pupils at Stubbington.

FOREIGN competition now-a-days is so keen, and British manufactures are so unfavourably handicapped with those of continental nations, that it is gratifying to find any article of home produce that can compete favourably in the foreign market. The Americans for long have been *facile principes* in preserving fish and meat, and for years they have virtually had a monopoly of the market. We are glad to say that the Normal Company, Limited, have deposed them from their pride of place; and with their factories at Aberdeen, Barra, and the Faroe Islands, they can turn out an unlimited supply of products for our army and navy.

The Company's preparation called "Fish and Vegetable," takes the first place among these products. It consists of fish, potatoes, and fat, and should be a most excellent food for our army and navy, being both palatable and highly nutritious. It is put up in 4 lb. and 6 lb. tins, hermetically closed, and the price is such that this article should command a ready sale.

Besides this food, the Company put up fish of various kinds, such as cod and halibut, &c., in jelly, at the same time in hermetically closed tins; but these preparations become more expensive, and are more suitable for yachting men, and the well-to-do classes. There are also several other kinds of tinned fish, such as fresh herring, kippered herring, Findon haddocks, &c., all of which can be highly recommended.

The Company are also manufacturers of various kinds of soups, highly concentrated for export, and un-

concentrated, and sausages, all of excellent quality. Their Scotch sausage, in skins or tins, is in great demand, both for home and export, for the latter of which it is put up in 2 lb. and 4 lb. tins, and can compete with any manufactured, both as regards quality and price. In these days, when contingents of most volunteer regiments go under canvas every year, we know of no better preparation of preserved food—meat and fish—than that supplied by the Normal Company.

THE discovery of those valuable leaves, the Coca of Peru, is not recent; but their adaptability as a restorative and tonic has only lately been perfected. To M. Chevrier, of Paris, many a soldier and sailor will stand indebted for a preparation which will be invaluable to them on the march or on board ship in hot climates. Its restorative powers are wonderful, and it has been ascertained that by simply chewing the leaf a man can cover long marches without even the assistance of food. On another page will be found full particulars.

NAVAL AND MILITARY NOTES AND QUERIES.

THE BRITISH FLAG AT SEA : ITS ORIGIN AND HISTORY.

Hail to the flag—the gallant flag—in battle or in blast
Whether 'tis hoisted at the peak, or nailed to splintered mast;
Though rent by service, or by shot all tattered it may be,
Old England's tars shall still maintain its dread supremacy.

What Englishman is there, whose heart does not glow at the sight of the flag of his country wherever he may behold it! Whether flashing in the battle-field as a rallying point for our brave troops, or floating in grandeur from those gorgeous fabrics in which

Britannia boasts
O'er seas to waft her thunders and her hosts,

it is everywhere glorious, and constitutes a Briton's pride. None, however, except those who have experienced it, can tell the stern feelings which pervade the mind when it is first spread in the presence of an enemy. National honour, national courage, national ambition, are awakened in the rudest breasts; whilst those of the gentler mood view it with the same sentiments, though, perhaps, of a more refined nature.

The utility of vanes or pennons in sailing-vessels must have been soon suggested as a means of ascertaining the quarter from which the wind was blowing. Thus, amongst the oldest paintings of ancient ships, double streamers or small flags may be found. When William the Conqueror came to claim the crown of England, his Queen Matilda presented him with a ship, in which he was to lead the fleet. It is described as being exceedingly splendid, glistening brightly in the sunshine by day, and in darkness carrying an immense top-light to guide the rest. The sails were crimson, and the figure-head was a child with a drawn bow, and the arrow ready to slip. The White Banner, consecrated by Pope Alexander II. expressly for the occasion, was hoisted at the mast-head.

It is reasonable to suppose that the practice arising from feudal institutions, and adopted by the land forces, was, to a certain extent, carried out upon the marine armaments; and as counties, towns, merchants, and private adventurers furnished ships for the service of the State, they were allowed to exhibit, in some conspicuous part, pennons or banners with the armorial bearings of each particular place and person, and in several instances these were actually emblazoned on the sails. The illuminated copies of *Froissart's Chronicles*, in the British Museum, present many curious illustrations of the manner of carrying the flags at sea; some of the vessels having a man-at-arms in the top, holding on a staff the banner of the nation to which he belongs.

The origin of the quarterings on the Royal Standard of England, which, as commander-in-chief of every other flag, claims our attention, is as follows: and first, the Lions *passant gardant* pale, or on a red field, were the arms of Normandy, and introduced by William Rufus; but then there were only two of them, the third was added by Henry II., for the Duchy of Aquitain, which he possessed in right of his wife. Edward III. quartered with the Lions the *fleur-de-lis* powdered on a blue field, of which five were entire, and borne in the first and fourth quarters. This he did on claiming the sovereignty of France; so that the Royal Standard was composed of the arms of England and France combined, and such it continued till the reign of Henry V., when the French King, Charles VI., having reduced the number of *fleur-de-lis* to three, Henry did the same, and so it appears in the Standard carried by the *Great Harry*, in the reign of Henry VIII., and the same occurred in a Royal Standard at the main of a ship-of-war in the time of Elizabeth. On the union with Scotland, through James I., the standard underwent a change, the first

and fourth quarters being each the arms just described, the second introducing the Lion of Scotland, and the third quarter the Harp of Ireland. Upon this, William III. placed an escutcheon of pretence for Nassau, which was removed by Queen Anne, and the standard then stood, the first and fourth quarterings the Lions of England and Scotland, the second quarter the *fleur-de-lis*, and the third quarter the Harp. George I. again changed it, and the arms of Brunswick, of Lunenburg, of Ancient Saxony, and the crown of Charlemagne, formed the fourth quarter, the other quarters remaining as in the reign of Queen Anne. On the legislative union with Ireland in 1801, the *fleur-de-lis* of France was omitted, and the standard then was the flag of our early days; where, in the first and fourth quarters, upon a red ground, were three fierce-looking yellow lions, with tails crooked like pot-hooks, and the right paw raised in the attitude of laying down the law; which is all very correct and proper, for, though nobody ever saw a yellow lion, it must be remembered that these were British monarchs of the forests, and during the war there was certainly prize-money enough made to sheath them with gold. In the second quarter was a red lion on a yellow ground, dancing a Highland fling; and his tongue projecting from his open mouth, seemed to indicate that it was warm work. This was a Scotch Lion, whose red coat was given to him probably because red hair is more prevalent in Scotland than in any other part of the world. Then, in the third quartering, on a blue field (should have been green, for whoever saw a blue field? besides, the colour is national) was the Golden Harp of Ireland, with its silver strings, and a stout, handsome, winged, lady-like, mermaid for a figure-head. When the Duke of Cumberland ascended the throne of Hanover, the escutcheon of pretence was removed, and the beautiful standard, as seen at the mast-head of the yacht that bears Her Majesty on the element over which she claims the Sovereignty, is now the Royal Standard of Great Britain.

Next in rank and succession may be classed the flag of the Lord High Admiral of England. Randle Holmes

in the Harleian MSS. says: "The anchor *Argent*, gorged in the arm, with a coronet and a cable through the ring, and fretted in true-love's knot, with the ends pendant *or*, is the badge of the Lord Admiral of England, as he is commander-in-chief over all the King's naval forces." Thus it was carried by the Earl of Southampton, in the reign of Henry VIII.; by the Earl of Lincoln, in the time of Mary; by the Duke of Buckingham, in 1619, who used the anchor and cable entwined, all *or*, much as it now is. In the reign of Charles II., the Duke of York placed his arms on an anchor surmounted by his Coronet. The anchor has continued to be the badge (borne on a red field) of the Lord High Admiral, or the Commissioners executing that office, down to the present time.

We now come to the "Union Jack." At what time, or from what cause, this term was applied to a flag, we have nothing but conjecture to rest upon. Some have attributed it to the fact of the upper part of a trooper's armour being so named; it was during the time of the Crusades transferred to the St. George's Cross on a white field, which the soldiers bore over their armour, both before and behind. Others ascribe it to the Union between the two Crowns of England and Scotland under James I., the abbreviation of whose signature "Jac" they assert, gave the name to the flag. The former opinion is probably correct, and it may be that, after the addition of a fly to the ensign of St. George, the small square flag with the red cross was called St. George's Jack. At the union of the two kingdoms, the flag of St. Andrew and that of St. George were blended together, and became "The Union Jack." That the Jack was considered to be the Royal Naval Flag of England, is evident by the treaty of peace entered into by the Dutch, in February 1678, wherein the latter acknowledged the supremacy of the narrow seas to be the right of England. The Union Jack, combining the crosses of St. George and St. Andrew, continued unchanged till the legislative union with Ireland, when the red diagonal cross of St. Patrick was laid upon that of St. Andrew, and upon them the fimbriated cross of St. George.

R. O'BYRNE.



REVIEWS.

Tiger-shooting in the Doon and Ulwar; with Life in India.

By Lieut.-Colonel J. C. FIFE-COOKSON. With numerous Illustrations by E. HOBDAY, R.H.A., from Sketches by the Author. (London : Chapman and Hall, Limited.)

The author commenced his career as a Shikaree in the Doon on account of their being a number of tigers there, although somewhat difficult to kill, owing to the thickness and extent of the jungle, and he was accompanied by one brother officer. After the usual difficulties of getting along in a dâk-gharrie—very amusingly described—the author and his companion reach the Siwalik Hills. Game abounds there and in the Doon, including the elephant, tiger, bear, leopard, and hog, besides sambur, cheetah, and many varieties of deer. Hyænas, monkeys, and numerous other animals are also to be found there. This chapter concludes with a general description of the weapons, servants, and camp equipment necessary, which cannot fail to prove useful to sportsmen generally. The second chapter, "In the Jungle," contains a good account of the capture of a python; and the illustration of it is remarkably well executed. Those interested in tiger-shooting, will find the chapter, "Among the Doon Tigers," replete with interest and information. These chapters will be read with equal pleasure by the "Old Shikaree," who has retired, and is now living peacefully and contentedly in Asia Minor, as it will be by the griffin on his outward voyage to India, and who contemplates with longing slaying his first tiger in the jungle. While these chapters contain much amusing matter on sport in India generally, they will also be found to contain good sound information on the subject of tiger-shooting generally, and prove Colonel Fife-Cookson to be an enthusiastic Shikaree, a good *raconteur*, and a keen observer of the habits of the denizens of the jungle. The hints he throws out as to the battery necessary for India may be consulted with advantage. The author says, "I prefer the No. 12 bore as being the rifle of largest calibre, which the sportsman can conveniently carry through a day's shooting in the jungle, if he is on foot, and which will fire a sufficiently large shell to be effective against tigers"; and adds the following useful hint, "In the jungle, the sportsman never knows what animal he may see next, and should,

therefore, always have his rifle in his hand." He instances two cases of his companions losing tigers, one in the Doon and one in Ulwar, owing to their rifles being temporarily carried by gun-bearers. Colonel Fife-Cookson has written a very charming book on sport and travel in India, complete in itself, on all points connected with shooting large game, and the future generation of Indian sportsmen must ever feel their indebtedness to the author for publishing such a valuable guide. The illustrations, by E. Hobday, R.H.A., from sketches by the writer, are truthful, and full of artistic merit, and the volume itself is very handsomely got up.

The Man Who Wishes he had not Married. By FRED PEGRAM. (Jarrold & Sons, 3, Paternoster Buildings, E.C.)

The story is composed of a series of sketches cleverly and humorously drawn, showing some of the désagréments incidental to the marriage state. *Free and easy before Marriage*, and *A Summer Holiday by the Sad Sea Waves*, are both very clever sketches, and show the artist to possess talent that should hereafter place him in the first rank of his profession.

Accidental Injuries: their Relief and Immediate Treatment. How to prevent Accidents becoming more serious. With a chapter on the various methods of conveying the sick and wounded, including the stretcher exercises in use by the St. John's Ambulance Association. By JAMES CANTLIE, M.A., M.B., F.R.C.S., Assistant-Surgeon Charing Cross Hospital. Twelfth Edition. Revised and Enlarged. (London : William Clowes & Son, Limited, Charing Cross, S.W.)

This excellent little book is so well known to the Volunteers, that it is only necessary to say the present edition contains the important addition of a series of "Stretcher Exercises" similar to those adopted by the St. John's Ambulance Association. Mr. Cantlie's name is a household word with the Volunteers, and this *vade mecum* of his bears the same relation to the Volunteer force that Surgeon-Major J. Porter's does to the army at large.

SUMMARY OF ARTICLES IN FOREIGN SERVICE MAGAZINES.

REVUE DU CERCLE MILITAIRE—ARMÉES DE TERRE ET DE MER. (Paris : 87, Rue de la Bellechasse.) November 27th, December 4th, 11th, and 18th, 1887.

The rôle of Horse Artillery Batteries in the Field—The Scouting Regulations of the Italian and Austro-Hungarian Cavalry—The Camp of Moscow—Photography from Balloons—The Torpedo Boats of the German Navy—Military Operations in the Alps.

REVUE DE CAVALERIE. (Paris : Librairie Militaire Berger Levraut et Cie., 5, Rue des Beaux Arts.) November 1887.

The Three Colberts, by General Thoumas (*continued*)—The German Cavalry (*continued*)—Historical Records of French Cavalry Regiments (*continued*)—The Remount Commission—The Composition of the New (French) Cavalry Regiments.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris : L. Baudoin et Cie., 30, Rue et Passage Dauphine.) November 30th, 1887.

The Transport of Field Artillery on Sledges—The Present Organization and Effectives of the Russian Artillery (*concluded*)—The Chinese Frontiers (*continued*)—The Field Regulations of May 1887 for the German Army (*continued*).

JOURNAL DE LA MARINE. Le Yacht. (Paris : 50, Rue Saint Lazare.) November and December 1887.

The Spanish Cruiser *Reina Regente*—Russian 1st Class Torpedo-boats—The Newfoundland Fisheries—The Normand Torpedo-boats—The Use of Oil at Sea—The Progress of Electricity as Applied to Navigation—English Armoured Cruisers of the *Orlando* type.

JOURNAL DES SCIENCES MILITAIRES. Revue Militaire Française. (Paris : L. Baudoin et Cie., 30, Rue et Passage Dauphine.) November 1887.

The Officer and the Superior Cadres (*continued*)—Notes on the Re-organization of the Army—The Defence of the Frontiers—History of the Regiments raised in July 1887 (*continued*)—The French Army and Navy before the Revolution (*continued*).

NEUE MILITAERISCHE BLAETTER. (Potsdam : Villa Schwanenbrücke, Post : Klein Glienicker.) December 1887.

The Present Armament of the Infantry of all Powers—The Retreat of the Allies after the Battle of Bautzen—The French Mobilization Experiment, II.—Notes from England—The Operations of the II. German *Corps d'Armée* after the Capture of Orleans 1870–71.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) December 1887.

The Bavarian Cavalry at Eckmühl—The Military History of the Year 1808 in Spain and Portugal—The Armament, Equipment, and Training of Field Artillery—The Fortifications of the Netherlands—The Armies of the French Revolution—The Present Condition of the United States Navy—The Gruson System of Armour-plating.

RIVISTA MARITTIMA. (Roma : Tipografia del Senato.) November 1887.

The Submarine Fauna of the Bay of Naples—The Black Sea, A Geographic-Military Study—Notes on French Cochin China and Saigon.

RIVISTA MILITARE ITALIANA. (Roma : Voghera Carlo, Via Nazionale). November 1887.

The Military College at Naples—Night Fighting—Gymnastic Schools as a Preparation for the Army—Notes from Germany.

REVISTA CIENTIFICO-MILITAR. (Barcelona : Bailen, Números 25 y 27.) November 1887.

The Moorish Invasions of Spain—The Action of Infantry-fire on the Field of Battle—The Probable Theatre of the next European War.

THE RIFLE. (Boston, Massachusetts, 4, Exchange Place.) December 1887.

America's Crack Rifle Shots—The Lorenz Ammunition—The Modern American Pistol, or Revolver—Revolvers at Wimbledon.

AT THE PLAY.

TERRY'S THEATRE is certainly as aptly named as is TOOLE'S; in the latter, one does not get much beside Toole, and in the former, one does not get much beside Terry. In this respect, "The Woman Hater," which has succeeded "The Churchwarden," follows the lead of its predecessor; there are not many minutes during which the lessee is off the stage, and those minutes are generally the dullest—still variety is pleasing, and Mr. Terry is, unfortunately, always exactly the same. However, the new play, which is by Mr. David Lloyd, is undoubtedly amusing, and if it were compressed into two acts instead of three, would be amusing throughout. As it is, the fun exhausts itself before the play is half done, and there is no plot to carry on one's interest. Mr. Kemble's make-up is funny, and the scenes between him and Mr. Terry are well worked up, but by far the best bit of acting to our mind is Mr. Alfred Bishop's study of a doctor. The professional manner is hit off without exaggeration, and adds another to the many finished bits of character-acting, which this careful actor has given us, forming a telling contrast with Blore, the butler, in "Dandy Dick," which Mr. Bishop has lately been playing. The ladies are adequately represented by Miss Victor, Miss Clara Cowper, and Miss Florence Sutherland, who have, however, no great opportunity of distinguishing themselves. The good taste of introducing a private lunatic asylum into the last act has been much questioned; but it must be owned that the subject is handled without making it as painful as it sounds. "The Woman Hater," is preceded by a little piece, called "Off Duty," which is quite worth seeing. Mr. Lionel Brough's rendering of the policeman is first-rate, and the story is interesting and naturally worked out; it is not often that a "curtain raiser" so well rewards the early playgoer.

The management at the CRITERION have wisely lost no time in withdrawing "The Circassian," and substituting Mr. Albery's ever popular "Two Roses." The cast is very even and good, though we cannot say that it comes up to that with which it was originally given at the Vaudeville. Mr. David James's Our Mr. Jenkins is, indeed, as good in its way, as George Honey's (and that is saying a good deal), indeed, it is to our mind, the best thing Mr. James has done of late, and we are not disposed to rate Mr. Gidden's Caleb Deecie as at all below Mr. Thorne's, while Miss Maude Millett is a distinct improvement on Miss Newton as Ida; but the rest are not equal to their predecessors. Mr. Irving is the most missed, not only because Digby Grant is one of his best characters, but because Mr. W. Farren seems quite at sea in the part, and misses nearly every point. Miss A. Hughes would make a good Lottie if she were a little less effusive and held herself a little more in hand; by this want of self-restraint she loses many points that Miss Amy Fawsett rendered telling, especially in the gold fish episode. Mr. Sidney Brough is a most promising actor,

and looks the *jeune premier* well. Mr. Blakely is exactly suited as Mr. Furnival. Mrs. Jenkins and Mrs. Cups are very poorly performed by Mrs. E. Phelps and Miss Vining, the latter combining with Mr. Farren to ruin the first scene—the best written in the piece. One has got spoilt now-a-days in the matter of scenery and appointments, and certainly one should be content to sacrifice these to good acting, but it must be owned that the very meagre and amateurish "get up" of the play, with its papery roses, skimpy villa, &c., does offend the modern playgoer's eye.

At the ST. JAMES', "Lady Clancarty" has been revived with substantially the same cast as before, with the exception of Mrs. Beerbohm-Tree who is replaced as Lady Betty by Miss Blanche Horlock. This pretty and graceful actress looks the part better, but does not act it quite as well, though she evidently takes Mrs. Tree as her model in other matters besides her clothes. She has the same exuberance, but misses a certain caustic humour that relieved Mrs. Tree's performance. She is, however, a promising actress, and has decidedly made a step since her performance at the Globe. Mr. Macintosh's study of William III. continues still the best bit of acting now to be seen in London, and has, if anything, improved since we last saw it. Mrs. Kendal has also perfected the study of Lady Clancarty; but we cannot think that the long sobbing, like a naughty child, in the bedroom scene, is an improvement, or adds to the pathos of the situation.

The PRINCESS' stage is occupied by yet another melodrama called "Siberia," which only differs from other melodramas in having a weaker story, poorer acting, and less effective scenery than most of them. The only exceptions are Miss Cicely Richard's acting of Vera the flower-girl, which has some merit in it, and the whole rendering of the scene in the mines. This last is very effective, and won some not ill-deserved applause, but why all the chief characters (and some of the very minor performers) marched in front of the curtain at the end of each act it needs something more than the very mild summons they received to account for. Mr. Barnes and Miss Grace Hawthorne make an uninteresting hero and heroine, Miss Mary Rorke makes the most of the little she is given to do, and poor Mr. Harry Parker struggles manfully to get some fun out of a hopelessly stupid "comic servant." Mr. Meade makes a very villainous villain, and is duly rewarded with the hisses of the gallery.

At the OPERA COMIQUE Mrs. Bernard-Beere has continued the run of "As in a Looking Glass," in which she herself and Mons. Marius repeat their old parts, while Mr. J. G. Grahame has replaced Mr. Herbert Standing as the villain. It is preceded by "My Little Girl."

TOOLE'S has re-opened, with "The Butler" still on the bills, the old cast being retained, while "Dot" is

announced for morning performances during the holidays.

At the OLYMPIC, Miss Hewett has withdrawn "The Pointsman" somewhat suddenly, and revived "Held by the Enemy," under the management of Mr. Yorke Stephens, who, with Mr. Willard and Miss Caroline Hill, is included in the cast.

DRURY LANE and COVENT GARDEN of course put forward their Christmas pantomimes as of yore, but of these and other Christmas entertainments as well as of Mr. Wilson Barrett's new piece at the Globe we must postpone our notice till next month.

Pieces that have been running for some time.

ADELPHI.—"The Bells of Haslemere," melodrama, Mr. W. Terriss, Mr. Cartright, Mr. Beveridge, Miss Millward, Miss Clara Jecks, Miss Annie Irish; and a farce.

AVENUE.—"The Old Guard," comic opera, Mr. Arthur Roberts, Mr. John Dallas, Mr. Alec. Marsh, Miss M. Edgcumbe, Miss Henriette Polak, Miss Phyllis Broughton, &c.; and "A Cup of Tea."

COMEDY.—"The Arabian Nights," farcical comedy, Mr. Hawtrey, Mr. Penley, Miss Cissy Grahame, Miss Zerbini, Miss Cudmore, Miss Lottie Venne, &c.; and "Lady Fortune."

GERMAN REEDS.—"Tally-ho," musical piece, Mr.

Alfred Reed, Miss Fanny Holland, &c.; and "Our Servants' Ball," Mr. Corney Grain.

HAYMARKET.—"The Red Lamp," drama, Mr. Beerbohm Tree, Mr. Brookfield, Mr. Sugden, Mr. Pateman, Miss Marion Terry, Mrs. Beerbohm Tree, Miss Filippi, &c.; and "The Ballad-Monger," Mr. Beerbohm Tree, Mr. Brookfield, Miss Marion Terry, &c.

LYCEUM.—"The Winter's Tale," Mr. Forbes Robertson, Mr. Macklin, Mr. Fuller Mellish, Mr. Charles Collette, Miss Mary Anderson, Mrs. Billington, &c.; and "Vandyke Brown."

PRINCE OF WALES'.—"Dorothy," comic opera, Mr. Ben Davies, Mr. Arthur Williams, Mr. Hayden Coffin, Miss Marie Tempest, Miss Nellie Gayton, &c.; and "Jubilation."

ROYALTY.—French Plays. Under the management of Mr. M. L. Mayer.

SAVOY.—"H.M.S. 'Pinafore,'" comic opera, Mr. G. Grossmith, Mr. R. Barrington, Mr. R. Temple, Miss G. Ulmar, Miss Brandram, &c.; and "Homburg," Mr. G. Grossmith.

STRAND.—"The Sultan of Mocha," comic opera, Mr. H. Bracy, Mr. Ernest Birch, Miss Violet Cameron, &c.; and "A Merry Meeting."

VAUDEVILLE.—"Heart of Hearts," comedy drama, Mr. T. Thorne, Mr. G. Farquhar, Mr. Leonard Boyne, Miss K. Rorke, Miss Rose Leclercq, Miss Sophie Larkin, &c.; and "Cut off with a shilling."



THE
ILLUSTRATED
Naval and Military Magazine.

No. 44.

FEBRUARY 1ST, 1888.

VOL. VIII.

EXTRACTS FROM MY JOURNAL WHILE COMMANDING
H.M.S. "ARGUS" ON THE COAST OF SICILY, IN 1860.

By ADMIRAL H. F. WINNINGTON-INGRAM.

(Continued from page 16.)



JUNE 10TH.—From this date the extracts become more or less intermittent, and depend in a great measure on the news received from time to time of Garibaldi's progress in the great work he had in hand.

June 13th.—A Neapolitan war-steamer came in view from Marsala, and then steamed away again in the direction of the island of Maritimo. We could see smoke rising from her guns as she fired at some object.

June 14th.—The Neapolitan steamer was still in sight off Maritimo, evidently watching for the reinforcements expected by Garibaldi to join him from Italy. I called on the Sardinian Consul, Signor Lepari, and was received by him in great state. He had borrowed rooms for the occasion, and refreshed me with tricoloured ices. I told him that I hoped, under the new *régime*, he would become Governor of Marsala, a post, doubtless, he much coveted. He informed me that the last of the Naples troops would quit Palermo on the 18th instant.

June 16th.—The Sardinian frigate, *Carlo Alberto*, hove-to off the anchorage. She had been, presumably, cruising to prevent filibusters from landing in Sicily. Signor Lepari went on board her—*en grande tenue*—and was saluted with seven guns.

June 19th.—News reached here this day of 4,000 Piedmontese being landed from three steamers at Castel-amare. No government is, as yet, established at either Marsala or Trapani.

June 20th.—The post arrived from Palermo after

much delay. H.M.S. *Agamemnon*, 90, had anchored there, and *Hannibal* (flag-ship) left for Naples. There was also a rumour that 8,000 Piedmontese had landed in the Gulf of Salerno.

June 22nd.—News from Palermo stated that 800 Italians had been captured in an American vessel by the Neapolitan cruisers. A governor is, at last, appointed to Trapani, and includes Marsala in his district.

June 24th.—The Marsala people routed out from concealment four of the *shirri*, or detectives, employed under the late Government, and led them about the streets of the town, with ropes round their necks. From Palermo we heard that the United States sloop-of-war *Iroquois* had gone to Gaeta, to demand the surrender of the American vessel captured by the Neapolitans.

June 26th.—A grand ball was given at Mr. Woodhouse's wine-stores; all the *élite* of Marsala were there, and a native poet composed an impromptu ode in honour of England. It was received amidst loud shouts of "*Viva la Reina Victoria*," to which a suitable response was made. We afterwards astonished the Marsalese by dancing "*Sir Roger de Coverley*" with the English contingent to the party.

June 28th.—As a caution to others, I quote from my journal of this date, the following:—"The steward bought some mackerel for my breakfast, and partook of some portion of them himself. Shortly after eating the fish, strange sensations came over me, and I felt my head swelling as though it would burst open; and on looking in a mirror, I was horrified to view my face in a most bloated condition, and of a deep purple colour. I in-

stantly rang the bell for the sentry to call my steward, but the latter was not to be found. I then sent for the surgeon, who, at one glance, said : ' You have been poisoned from the same cause as your steward, whom I have just attended. You must take medicine immediately, and keep your head cool with wet towels round it.' This I did, and towards noon felt better, and quite recovered my usual health in the course of the day." We have a theory in the navy, that fish hung up or placed so as to absorb the moon's rays at night, becomes unfit for food; and I have myself known an instance which goes to prove that the theory is correct. On board H.M.S. *Actæon*, whilst making a passage to Rio de Janeiro, her ship's company had been very successful in a day's fishing for albacore, boneta, and dolphin, and had hung the catch, by their tails, to the mainstays, where they were exposed all night to the rays of a full moon. A quantity of the fish was consumed by the men at their breakfasts the following morning, and shortly afterwards the surgeon reported to the captain that nearly half of the crew had symptoms of poisoning, and he could only account for it on the supposition that the fish they had eaten had become affected, in some mysterious way, by their exposure during the night to the moon's influence. Whether this had been the case with the mackerel of which the steward and myself had partaken, or that some other cause had brought about similar results, we could not, of course, discover; but after what I witnessed in H.M.S. *Actæon*, I had no hesitation in attributing our illness to the fishes we had eaten, which, although apparently fresh and sound, must have absorbed poison during the night, while laid out in the Marsala market with a bright moon shining on them. It is for men of science to account for these facts, as I do not presume to have the necessary knowledge.

June 29th.—The sea to-day being unruffled by any wind, I was enabled to view the nature of its bed quite plainly through the clear water where the *Argus* was riding at a single anchor, and was unpleasantly surprised to see that anchor lying flat on a heap of shingle, which its fluke had, evidently, not been able to penetrate. As it was undesirable to remain any longer at such a bad holding ground, I started at once for Palermo, to which city I had intended returning in a day or so.

June 30th.—Anchored in Palermo Bay at 6 A.M., and found it full of war-ships. The *Hannibal*, line-of-battle-ship, and *Amphion*, frigate, represented the English force. A French admiral's flag was flying on board the 90-gun ship *Donaweeeth*, and there were also three Sardinian frigates at anchor, viz., *Carlo Alberto*, *Victor Emanuel*, and the *Adelaide* (flagship). On going on shore I found the city very gay, and the people busy in destroying the Castelmare (citadel), which had taken such an active part in the bombardment of the town. Military bands

were playing on the marina, and all the beauty and fashion of Palermo were there in carriages to listen and talk of the great events that had restored peace to the lovely *Concha d'oro* or (Golden Shell), a fond native term for their beautiful bay and its surroundings. I there met Captain Peard, a Cornish gentleman of property, better known as Garibaldi's Englishman, who had, for the mere love of fighting, joined the *Cacciatori delle Alpi*, in 1859, and, being an excellent shot, did much execution amongst the Austrians, who were attacked by that corps on the shores of Lake Como. He had now arrived in Sicily to again place his services at the disposal of Garibaldi.

July 3rd.—We left Palermo yesterday, and anchored at Trapani this morning. Our Vice-Consul, Luigi Marina, came on board and reported everything quiet under the new Governor, so I thought it a good opportunity to visit Mount St. Julian and view the ruins of the ancient Eryx. Hiring a couple of carriages for myself and officers, we reached the mountain—or rather hill—after about two hours' drive, and climbing its steep sides, we found ourselves among extensive Saracenic remains. Some of the walls were of a great age, dating 200 years before the Christian Era; both Greek and Roman coin had been picked up in the débris.

July 4th.—The *Argus* anchored once more at Marsala.

July 13th.—News came from Palermo that three of the Neapolitan men-of-war, the *Volace*, *Elba*, and *Duke of Calabria* had gone over to Garibaldi.

July 16th.—We made up a party to visit the ancient temple of Sagestum, and drove, in the first instance, to Trapani, a distance of twenty-two miles. The country passed through was cultivated with vines and olive trees. On arriving at Trapani, we put up at an hotel called the Golden Lion, kept by a reduced Sicilian nobleman, who had managed to exclude from his premises the three usual pests to travellers in the island, namely, B-flats, fleas, and mosquitos, so we were enabled to get a sound and refreshing sleep preparatory to an early rising the following morning. We were here joined by Luigi Marina.

July 17th.—Up at 5 A.M., and get away in four carriages. One of Garibaldi's captains begged to become one of the party, being a friend of Luigi. We drove to Calatifimi, a distance of twenty-four miles, over a hilly road and through a corn country, arriving at our destination at noon; and here, it seems, Luigi's friend had looked forward to dining, but was much disgusted when, instead of doing so, we ordered horses and donkeys for ourselves to ride, and hired men to carry food the remaining four miles of the distance to the Temple. The road was execrably bad, but the country passed through made up in beauty for this defect. The land was scored with deep valleys formed, evidently, by volcanic up heavals at a remote period. The Temple was gained in

an hour's time, and the party immediately set to work sketching and examining this splendid ruin. Thirty-six fine columns, each six feet in diameter, and of the Greco-Doric order, remain erect. Their bases, which had been buried by the drift of ages to the depth of five feet, had been unearthed. The capitals that surmounted the columns were without the usual embellishments of carving, and presented a perfectly plain appearance. The measured length of the Temple was 189 feet, and its

this point embraced Castelmare Bay and the mountains near Palermo. We returned to Calatifimi in the afternoon, and afterwards left for Trapani, driving past the hills that had been held by the Neapolitans when attacked by Garibaldi in his first battle on Sicilian soil, and which has been previously described. Their positions must have been very strong, resting as they did on the summit of very steep inclines, and it reflects great credit on the gallant 800 Piedmontese who drove them off such



CATANIA AND ETNA.

breadth 68 feet. The comestibles brought with us were now spread out at the altar end of the ruin, where many a victim had been sacrificed to the Gods of Romans, and there Luigi's friend, the captain, made ample amends for lost time. The remains of the old town were afterwards visited, and its theatre found in a good state of preservation. It is supposed to have existed from 300 B.C. A more picturesque site for a city it would be almost impossible to find, situated as it was over a deep chasm, or cleft, in the hill on which it stood. The view from

ground. We English should not, however, despise the Neapolitans for thus giving way, as it transpired, in 1881, that our own troops, strongly posted on the top of Majuba hill in Natal, were driven, like sheep, before a few determined Boers, who had crawled up, like the Garibaldians, on their bellies, and, being splendid marksmen, had picked off every soldier who appeared on the hill's crest to endeavour to stay their advance. Trapani was reached at 10.30 p.m.

July 18th.—After breakfast I called on the Military

Governor, Saleta Rosalia, and then made some purchases of coral, for which this part of the coast of Sicily is famous. On reaching Marsala in the afternoon, we received news of Garibaldi's victory at Milazzo, a town and fortress held by the Royal troops, and situated on the coast about half way between Palermo and Messina. The old hero, it seems, had a narrow escape of being captured by some of the enemy's cavalry.

July 19th.—A grand festa took place at Marsala in honour of Garibaldi. It being his natal day, salutes were fired, and 2,000 of the National Guard and Squadri were drawn up in the principal square. The latter were armed with fowling-pieces and pistols. They attended a *Te Deum* in the Cathedral, and then marched through the streets. At night, there were illuminations, and a transparent picture of Garibaldi's landing might be seen over the gate by which he entered Marsala. The chief personages were accurately delineated by the painter, but he had given rather a stretch to his imagination when he portrayed the people of Marsala receiving them with open arms amid a perfect shower of shot and shell from the Neapolitan ships; for it was well known that Garibaldi had, in the first instance, been, from fear of those vessels, coldly welcomed by the Marsalese, who were conspicuous only by their absence at his landing-place. All the citizens were in the square enjoying a bright moonlight, and listening to the strains of two bands, one composed of string, and the other of brass instruments, which played alternately. Indeed, it was a grand day for Marsala, as, on ordinary occasions, there was little of life in her streets, and she might well be placed in the category of dull towns.

July 20th.—We heard of the fortress of Milazzo surrendering to Garibaldi, and of his advance on Messina; also of the arrival at Palermo of an English merchant steamer with volunteers from Liverpool desirous of joining the Liberator's army.

July 22nd.—Was notable, from the visit of a real nun to the *Argus*. She was on sick leave from the convent.

July 23rd.—Luigi Marina arrived from Trapani with a Maltese master of a barque, who was in trouble with his crew. I ordered a naval court of inquiry to sit at Trapani to sift the case.

July 25th.—Heard that an account of the battle fought at Milazzo had been written by Alexander Dumas, the French novelist, in his usual inflated style.

July 27th.—Received news to-day that the Naples Government had ordered Messina to be evacuated on the approach of Garibaldi, who was marching towards it from Milazzo. The decision of the naval court, sitting at Trapani, condemned eight of the crew of the Maltese barque to imprisonment, and reprimanded the master.

August 1st.—I was awakened at 1 A.M. by the officer of the watch reporting two Maltese masters of merchant ships having come on board the *Argus*, complaining that

their vessels, which lay in the inner harbour, were being attacked by a party of some twenty or thirty men from the shore, and, as they had money in their ships, they were afraid of being robbed of it. I despatched the first lieutenant (Mr. Sterne) in the pinnace, and the navigating lieutenant (Mr. Coen) in the cutter, with the crews of the boats armed, to capture the rascals; but on their approaching the vessels most of the latter made off. Some five or six of them, however, remained standing on the Mole. Mr. C—— landed there with the cutter's men, and demanded their business at that hour of the night. They did not reply to his inquiry; he then told them to go away from the vicinity of the Maltese ships, whereupon they said they belonged to the National Guard, but would retire if he wished them to do so. It was, evidently, a case with the Maltese of "save me from my friends." At 10 A.M. I drove with Mr. Whitaker, of Ingham's firm, to St. Peter's Church, for the purpose of witnessing the Señorina Catherine Lepari—sister of the Sardinian Consul—take the black veil. All the Lepari family were present, and conducted us to seats from whence a good view could be obtained of the gorgeous but saddening ceremony, that was to bring to a close the earthly hopes of their young relative. The interior of the church was brilliantly lighted, and this brought to our observation the beautiful mosaics that ornamented the walls. The chancel was screened off from the aisle by an open fretwork of polished wood, and a raised gallery occupied the opposite end of the building. In the centre of this, and immediately over the main aisle, was placed an oval and empty gilt frame capable of holding a life-sized portrait. Presently the organ pealed out some joyous music, and at the same moment the figure of a magnificently dressed lady, with a golden crown on her head, appeared as a picture in the gilt frame. The choir now joined their rich voices to the music in one grand *jubilate*, and after this was over, a priest mounted into the pulpit, and delivered himself of a long discourse on the benefits to be derived from forsaking the world and becoming a nun. This concluded, the tones of the organ assumed more solemnity, and pungent incense was freely burnt around us. All this time, the young lady in the frame remained as tranquil as any portrait, and might have easily been mistaken for such. She wore a ball costume of the finest silk, and costly jewellery clasped her neck and wrists. As we gazed at this charming living picture, with mingled feelings of admiration and pity, the Superior of the convent took her place beside it, and gently lifted the crown from off the girl's head. This was brought down to the aisle for our inspection, and we then gave money towards the funds of the convent. The Lady Abbess now placed a scroll of paper in the hands of the candidate, from which she read her own renouncement of the

world, and a promise of obedience to the rules of the convent. The Superior then produced a formidable looking pair of scissors, and with her own hands loosened the girl's lovely hair until it hung down and encircled her form to the waist, and, whilst an assistant held a silver tray to receive the precious freight, she sheared the head to its very scalp. The glossy locks in which, heretofore, the young novice had taken so much pride were handed to her friends, who passed them to

burning of incense, to the space behind the fretwork screen, where she knelt at the altar and received the sacrament. After this, the accompanying nuns placed her in an open coffin and covered it with a black cloth, thus showing that she was truly dead to the world. They then sat around her whilst the church bell tolled for the departed one. I was near enough to these recluses to take note of their features, and was sadly impressed by the melancholy and extreme pallor which



RUINS OF THE THEATRE OF TUORMINA.

their numerous acquaintances in the church, that they might view the great sacrifice she had made. The Señorina was in the meanwhile gradually assuming the nun's dress, and fervently kissing each garment as it was placed on her. Last of all the black veil was carefully adjusted over her head, and the same crown she had previously worn was set thereon. She then descended from the gallery and walked in a procession of priests and sisters, amid the sound of solemn music and much

rested upon them. Many showed traces of great beauty which had naturally faded under such ungenial treatment. I was told by Englishmen who had spent their lives in Sicily, that it was a common custom in native families to devote daughters, who had reached the age of twenty-five without contracting matrimonial engagements, to this sort of life, as being an easy and inexpensive provision for them. The remainder of the sacred performances concluded with a *Te Deum* in

which not only the organ but a string and also a brass band took part. The new nun's relatives and friends then passed through the church to the convent "Parralorio," where Miss Lepari had been brought to take a last farewell of them. It was a most doleful scene as they kissed and cried over her, whilst the young nun herself put on an appearance of extreme felicity, which seemed to me unnatural and forced. She received me with a face full of smiles, when I earnestly took her hand and bade her adieu; and as I turned away, words came unbidden to my lips, "A prisoner for life; better be dead. Poor thing, poor thing." I went sorrowfully home, and these words kept repeating themselves until I found relief from them in other cares on board my ship. Amongst these was the affair of the previous night, and I now sent an officer with a letter to the Delegate of Marsala under the provisional Government established in Sicily, in which I requested he would find out and punish those members of the National Guard who had aided or abetted the attack on the Maltese ships, and I, at the same time, forwarded him a copy of the evidence given by my officers on their return from these vessels. In reply, the Delegate insisted that the delinquents did not belong to the National Guard, and that the whole affair must have been a smuggling transaction between the Maltese crews and some of the townspeople. This view proved to be correct, for shortly I received a letter from our Consul informing me that the consignees of the Maltese ships had requested that proceedings might be stayed; so I came to the conclusion that the masters of the vessels had been purposely frightened away, or, if parties to the nefarious act, had endeavoured to throw a blind over it to screen themselves should any steps be taken by the Custom House authorities against the smugglers. However, I heard no more of the business, so doubtless the profits made that night had been shared all round.

August 3rd.—Received news that the fort Salvatore, commanding the city of Messina, had been taken by Garibaldi's forces, and that the towns of Syracuse and Augusta were evacuated by the Neapolitans.

August 10th.—The post arrived, and from it we gleaned that Garibaldi intended attacking the citadel of Messina.

August 12th.—The above was evidently promulgated to mislead, for to-day we heard that the famous chief had crossed the Faro with his army and landed in Calabria.

August 14th.—A hot Sirocco wind blowing; ther. in cabin, 88 Fahr. A party of officers started to visit the ruins of Salinuncum.

Sept. 4th.—The *Argus* left Marsala for Palermo, arriving there under sail in the evening. Captain Cochran, of the *Amphion*, had received orders from the Admiral at Malta to employ my ship on a survey of Graham's shoal. This dangerous obstacle to navigation had been formed by a volcanic cone which,

some years previously, made its appearance about thirty or forty miles S.W., and to seaward, from Girgenti, by throwing up, whilst in an active state, vast columns of water enveloped in steam vapour and intermixed with showers of lava. When its violent condition had subsided, a small island of scoria was found to have been left above the surface of the sea, and a captain of one of Her Majesty's ships had actually planted the British Jack upon it, and taken formal possession in the Queen's name. This minute island did not remain for long an English dependency, as it disappeared in a silent and mysterious manner quite out of keeping with its boisterous birth, and sunk, to become again the property of Father Neptune, to the depth of eleven feet below the surface of the Mediterranean. Years had since elapsed, and no tidings of the shoal having reached our Admiralty for some time past, led the officials there to suppose that it had become more and more submerged, so I was ordered to ascertain if such was the case or not.

Sept. 6th.—Received news of Garibaldi's victory at Toriolo, and that 10,000 Neapolitan troops had been taken prisoners.

Sept. 7th.—It was stated that 30,000 Sardinian soldiers were marching on Rome. Mazzini's democrats seemed to be getting the upper hand at Palermo.

Sept. 8th.—A telegram reached us, announcing Garibaldi's entry into Naples without opposition.

Sept. 10th—Mazzini's republicans struggle hard to put aside the Sicilian annexationists, but I trust they will fail. The island wants a strong government that can keep down brigandage. A placard appeared in the Via Teledo, denouncing forty-nine persons as spies of the Neapolitan Government.

Sept. 11th.—Received orders to take *Argus* to Messina and then on to Malta.

Sept. 12th.—Left Palermo for Messina, passed Milazzo the following morning and anchored in Messina harbour at 1 P.M. Found a French line-of-battle-ship, the *Imperial*, and H.M.S. *Scylla*, Captain Rowley Lambert, lying there; the latter, later in the day, left for Naples. A Sardinian frigate, the *San Martino*, arrived. She had rifled guns on board, and was supposed to be going to Ancona to join their Admiral in an attack upon the place. The Neapolitan troops still held the forts which face, and, indeed, command the town of Messina from the opposite side of the harbour on which the latter stands; however, they did not molest the Garibaldians under Colonel Dunne, who occupied the city.

Sept. 17th.—Received news that the Papal States were in insurrection. The excitement in Messina was intense and affected some of the crew of the *Argus*, who made an attempt to desert to the Garibaldians, and this caused me to take stringent measures for their safe keeping.

Sept. 21st.—H.M.S. *Scylla* arrived from Naples and

reported that Garibaldi had received a check under the walls of Capua, but it was believed to be a slight affair. Left in *Argus* for Catania, Syracuse, and Malta; arrived at the latter port on the 23rd, and found a hot Sirocco wind blowing over the island. Ther. in cabin, 84 Fahr.

Sept. 26th.—Drove out with Hobart—now, 1883, a Turkish Pacha and head of that navy*—to Marsa Scala, at 4 A.M., to shoot quail, and killed ten brace by 10 o'clock, when the great heat made us desist.

shell. Sounded every half hour, getting 70, 80, and 90 fathoms with different bottoms; the least water found was 64 fathoms, the land bearings were invisible. Kept the hand lead going after dark, and steered for Cape Granitola light on the Sicilian coast; sounded across the position of shoal without finding bottom.

Oct. 2nd.—The morning found us between Mazzara and Cape Granitola. Took a cross bearing of these places, which put the ship two miles off shore. After-



THE TEMPLE OF SEGESTA

Sept. 29th.—Left Malta with the Marquis of Downshire's yacht in tow, and cast her off outside the harbour; the *Argus* then shaped a course for Girgenti.

Oct. 1st.—We arrived of Girgenti at 8.30 A.M., and got cross bearings for position, and sights to test chronometers, and then steered for Graham's shoal, thirty-seven miles distant. At 2 P.M. tried for soundings, and struck them in sixty-five fathoms with a bottom of sand and

wards got sights for longitude, which agreed with the bearings, making the shoal twenty-one miles distant. Commenced sounding at 10 A.M., but did not strike bottom until noon, when the *Argus* was in the exact latitude and longitude of the shoal as placed on the chart. Soundings were then got in 80 fathoms, no land being visible at the time. We then steamed slowly to the eastward, and shortly came into 39 fathoms, probably passing pretty close to the site of the shoal.

* Since dead.

Turning the *Argus* round, I caused her to be steered backwards and forwards over the spot where these soundings had been obtained, but could not find any less water. During the first night watch, however, soundings were suddenly struck in 22 fathoms; but it was discovered, by working out a star-lunar, that the ship had been set, by a current, on to a patch of shoal accidentally found by H.M.S. *Terrible* when she cruized in these waters.

Oct. 3rd.—A swell came up from the westward during the night; a sign of wind approaching from that quarter. Kept the *Argus* dodging about on the *Terrible* patch, to enable her position to be placed on the chart by cross bearings of the land in the morning; however, such a haze hung over the island that its shores were not to be seen. Soon a fresh breeze sprung up from the westward, and the sea rose fast; this, with a falling barometer, induced me to steer for Girgenti, where we anchored in six fathoms off the Mole. The weather had now become very threatening, the wind blowing in gusts from all quarters, and accompanied by thunder-storms.

Oct. 4th.—Heavy thunder-storms continued with much wind and rain, and the air felt quite cold. I received a letter from Mr. Oates, our Vice-Consul at Girgenti, stating that the Sicilian pilots and fishermen declare Graham's shoal to have disappeared entirely.

Oct. 5th.—The weather clearing a little, I was enabled to land and visit the ruins of the ancient Agrigentum, and saw the remains of no less than five magnificent temples, namely, that of Juno, Concord, Hercules, Jupiter, and Castor and Pollux. The two first were smaller, but more perfect than the rest, especially the temple of Concord. The colossal pillars of the temple of Hercules were all prostrate, said to have been overthrown by an earthquake. Jupiter, the largest of the temples, had never been complete. The massive capitals that were to have adorned its columns, lay about, but the latter were not there. A stone human figure, fifty feet in length, was prostrate on the ground. It is supposed to have been intended for one of the side supports to the grand entrance of this temple. Castor and Pollux had thirteen pillars erect on either side of their temple, and six at each end of it, but the dimensions of these were small as compared with those of Hercules. The carvings over the façade of this temple were perfect, being composed of beautiful frieze representing lions and other beasts.

Oct. 6th.—Weighed at daylight, and proceeded again to the latitude and longitude of Graham's shoal. Its land bearings were all visible, and we brought them on about 10.30 A.M., when soundings gave 105 fathoms. The steamer's head was then put to the south, and she moved slowly, getting soundings in 80, 65, and 28 fathoms. At noon the ship was once more placed on the supposed site of the shoal, and we continued sounding all

the rest of the day, and through the night, with the same results as before.

Oct. 7th. (Sunday).—After divine service, I steamed in for Sciacca, a fishing town on the Sicilian coast, and sent the navigating lieutenant ashore there to gain in formation from the fishermen, throughour Vice-Consul, Mr. Inbernone, as to their knowledge of the shoal. These men stated that it had been dispersed three years previously during a heavy south-west gale. The coast about Sciacca was most picturesque.

Oct. 8th.—Thick weather came on, obscuring the land and also the sun. This prevented our correct position being ascertained. Presently a heavy thunder-storm broke over the ship, and the wind came in squalls from the north-west, bringing with them swarms of flies, thus blown off the shore. Quail and other migratory birds also kept flying round the *Argus*, as if for protection from the elements, which were doubtless unfavourable for their usual passage across the Mediterranean at this time of year. Vessels that had evidently been detained to the westward by foul winds and calms, now came by us in numbers, running before the fair breeze. They seemed regardless of any possible danger from Graham's Shoal, and scudded over the supposed site of the obstacle in a manner that showed an unbelief in its existence. In the afternoon, torrents of rain accompanied by thunder and lightning made things uncomfortable; and I was glad when the high Island of Pantelleria peered through the gloom, as with its bearings we were again enabled to steer for the shoal. The evening found us over our old acquaintance the "Terrible Bank," and we continued sounding through the night; but in the morning, the wind having increased in force considerably, I determined to bear up for Malta.

Oct. 9th.—Running before a westerly gale, sighted the Island of Gozo light. At 7 P.M. rounded the *Argus* to on port tack, steadyng her with fore and main reefed trysails. At 3.30 A.M. bore up for Malta, with a strong gale blowing, and got into Valetta Harbour in time to breakfast with the admiral, who directed me to draw up a detailed report of our search for Graham's Shoal, that he might forward it to the Lords Commissioners of the Admiralty. This I sent in with an accompanying chart showing the different lines of sounding taken; and these appeared so numerous on the paper over the exact latitude and longitude of the shoal, that it would have been impossible to have crowded in any more. Thus, the diligence of the search was manifest to all who viewed the chart, and it seemed to be out of the question that a shoal should exist at the spot indicated by previous discoverers, having only eleven feet of water on the extreme pinnacle of the volcanic cone that, in the first instance, produced it; added to this were the evidences of the fishermen and pilots at the ports of Sciacca and Girgenti, and these confirmed my belief in

its disappearance. Judge my surprise then, when, ruralizing in Worcestershire some two years subsequent to the above search, I read in the day's newspaper that one of our ships-of-war had again accidentally stumbled upon Graham's Shoal in the same place as heretofore, and with only eleven feet of water over it. In discussing this intelligence, a few naval men held the opinion that the shoal had been but recently reformed by further volcanic energy. I did not coincide with their views, but rather attributed our want of success, during the *Argus* expedition, to bad luck and the enormous difficulty of discovering a submarine peak of a few feet circumference, amid the vast area of waters that surrounded it. In fact, the search might be likened to the well-known similitude of looking for a needle in a

bundle of hay. Moreover, the great distance of thirty or forty miles from which the cross bearings of the land had to be taken, could not make them more than approximate to the position of the shoal; whilst the error of a few seconds in taking or working out the sights for latitude and longitude might place miles between the ship and the object of her search. Again, in the whole course of my ten years' services in the Mediterranean, I never heard of any merchant vessels having struck on Graham's Shoal, although I was an eye-witness to the careless manner in which many were navigated in its vicinity, thus showing how remote the chances were of their hitting this minute but terrible danger.

H. F. WINNINGTON-INGRAM.

NAVAL AND MILITARY NOTES AND QUERIES.

DISCIPLINE.—When we realise, says Baron v. d. Goltz in his *Das Volk in Waffen*, the size of modern armies, we may well ask ourselves how it is at all possible to direct such large bodies of men. The answer to this question is that discipline alone makes it possible to move and guide them. There is no better solution of the problem. But the word "discipline" means so many things, that what it comprises does not seem sufficiently well defined, and the subject requires further explanation. Discipline is generally understood to mean good order and good conduct, upheld by steady maintenance of strict regulations. But with reference to this it must be observed that a severe code of military law is by no means necessarily accompanied by regularity and good conduct. There never was an army better disciplined than that of Germany during the last war, yet there never was a large army which took the field under such a mild code, which was, moreover, administered in the most humane manner. On the other hand, the history of former, as well as of more recent times, furnishes many examples of the co-existence of Draconic severity and of misconduct, without any diminution of either. The French Republic of 1870 kept a bullet in store for every disobedient soldier, and instances of military execution were by no means uncommon in its armies. Yet discipline was, and continued to be, loose. The actual fundamental relations between the two things was natural enough. All laws

spring first from the surrounding circumstances, and only react upon them later on. It must not, however, be imagined that discipline comes naturally in a well-regulated society, and that it is only the consequence of social morality. Not so; the trials to which the soldier is exposed are too severe for this to be the case. It follows, as a matter of course, that crime is less frequent in the army of a cultivated nation than in those of coarser races, but discipline requires more than merely negative services. It demands of the soldier that he should make nothing of venturing his life in order to overcome the enemy. It demands of him extraordinary efforts, and leads him to look on the extraordinary as something quite common-place and habitual. The superiority which disciplined soldiers have over undisciplined hordes is principally a consequence of the confidence which each man places in his comrade. This unqualified confidence is doubtless the best agent by which discipline works, and it enables a great appreciation to be formed of the peculiarity of what is understood by this much used expression. There is, however, doubtless, an absolute necessity for a code of laws sufficiently strict to cause obedience to a superior to seem imperative. The force of the passions cannot be restrained without the help of law. Insubordination must, whenever it shows itself, be at once checked by a strong hand.

(Continued on p. 103.)

OUT OF THE BEATEN TRACK.

BY MAJOR-GENERAL R. REVELEY MITFORD.



N the 1st August 1884, when the heat had been overpowering and the heavy clouds presaged the advent of the long-expected rainy season, we left Meean Meer by train for Umritsur *en route* for Dalhousie.

Not stopping to visit the Golden Temple of the Sikhs, we continued our journey by a new and badly-laid line to Pathan-Kote, at the foot of the hills, having for a fellow-traveller a native contractor, who had had a good deal to do with the railway, and to whose presence in the carriage our terrier, "Rip," objected much more than we did, though it is most unusual for natives to travel in the same compartments as Europeans.

From Pathan-Kote our choice of further means of progression lay between riding and doolies; and as I had been suffering from fever, and my companion from nursing me, we had decided on the latter, and found the queer litters awaiting our arrival. At 11 P.M., torches aiding the moonlight, we started, first being carried through a large native village, and then along a rough country road where we got the full benefit of the dust, as the bottom of a dooly is only about eighteen inches above the ground, and the short, scuffling step and naked feet of the bearers are admirably adapted to raise a smothering cloud from the light soil. However, we had not to complain long of the dust, for soon after our departure the moon was obscured by gathering clouds, and welcome rain cooled the air, but alas! did not stop; increasing in violence, it fell in sheets and waterspouts, while deafening peals of thunder and vivid flashes of lightning so bewildered the unfortunate bearers that they would willingly have stopped had there been any shelter from the pitiless beating of the storm. There was, however, no vestige of cover at hand, so they were obliged to trudge on, ankle-deep in mud, while the down-pour continued, and the thunder echoed and re-echoed through the hills.

When day broke, it was still raining, though not violently, but heavily and steadily. The path was gradually rising, passing along the hill-sides, and in many places where it had been washed away we were compelled to get out and scramble across landslips of loose shale, uprooted trees, and fallen rocks. Already working parties were busy repairing these breaks in the

road, and lent a hand in passing the doolies over the more dangerous parts.

Up wound the path, through gully and ravine, along rocky ridge or grassy slope, sometimes scooped high out of the precipitous cliff, at others descending to cross a bridge over a swollen mountain torrent, till the low brushwood was left behind, and we entered the dim twilight of the dense pine-forests which clothe the higher ranges, where the marked decrease in temperature combines with the altered vegetation to show a considerable elevation above the plains. We spent that night at Mamool, a bungalow in the forest, close to the little military station of Bukloh, which is always occupied by a Goorkha regiment, and glad enough we were of wood fires to dry our clothes and comfort us, though beyond the stores we had brought we could get little to eat.

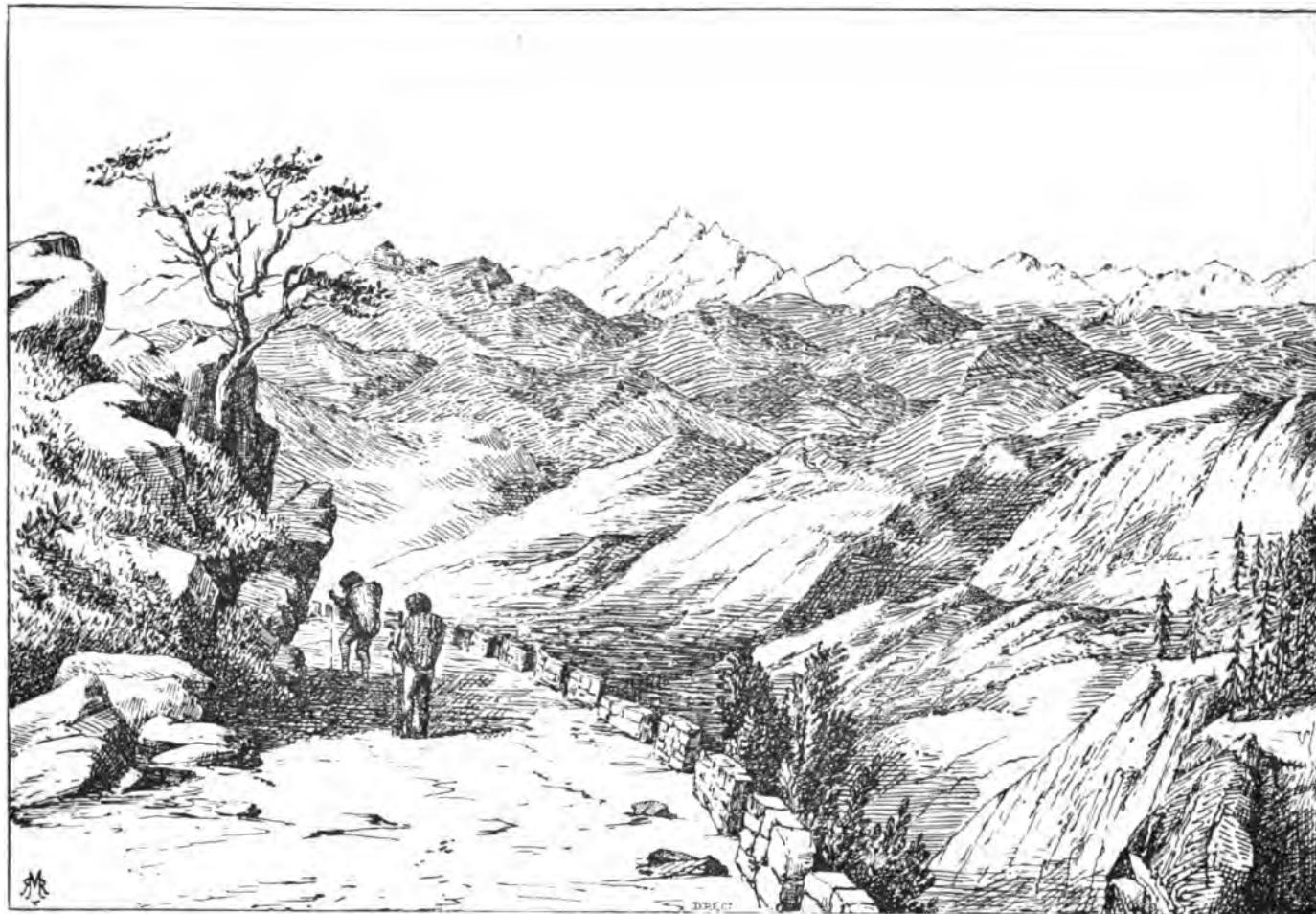
A short journey of eleven miles next morning brought us to Potrain, the lowest of the three peaks on which Dalhousie is stragglingly but most picturesquely perched. Tera is the name of the second hill, and Bukrota of the third, rising high above its brethren, and ascended by roads which frequently degenerate into mere flights of irregular steps formed by pine-logs fastened across the path to prevent the soil being completely washed away by the torrents which pour down after every heavy shower.

The hotel to which we went, called Strawberry Bank, is on the first hill, a picturesque building with deep verandahs and overhanging eaves, high-pitched gables, and a wooden roof on which the hail used to rattle like peas on a drum. A terraced garden separated it from the rough, unkempt jungle, which springs up in luxuriant tangle wherever axe and spade are not constantly at work. Like most of the Dalhousie mansions the hotel consisted of an outer shell of masonry, all the interior walls being of wood, and as in some places the planks had "lost touch" of each other, one had rather the idea of living in a bird-cage. The furniture was of the most elementary description, and the verandahs were generally crowded with ayahs, children, tailors, "jampans," or hill-chairs, and their bearers, pedlars displaying their wares, waterproofs, umbrellas, and a few ponies, whose riders were paying visits within. Then, as each resident had half-a-dozen servants, one or two ponies, and three or four dogs or children, or

both, the babel and confusion may be imagined, it certainly cannot be described.

The houses of residents are scattered over the hill-sides in artistic irregularity wherever sufficient level space can be found or made for their foundation, the mountain-side itself frequently serving as a back wall. They are approached by break-neck paths, frequently unfenced, leading up or down from the main highway, or Mall, the only road in the place with the faintest approach to the horizontal, and consequently in great request for riding parties, invalids, and perambulators

On a spur jutting out from the main line of hills, and at a lower elevation, stand the barracks of the convalescents sent up from the British regiments stationed in the burning plains, and on the neck connecting this spur with Dalhousie, a flat piece of ground is devoted to tennis-courts and a band-stand, where everyone meets at least three times a week to play, flirt, talk scandal, or listen to the music of the Convalescent Depôt Band. Amateur theatricals, concerts, and dances also help to break the monotony of existence, but Dalhousie—although one of the prettiest—is



SNOWY RANGE FROM BUKROTA, DALHOUSIE.

—a mixture as heterogeneous as uncongenial! The mountain-sides, where not occupied by houses stuck like swallows' nests on a wall, are covered with under-growth and shaded by forest trees. Pine, ilex, and rhododendron are the most common, but many others bring their varied foliage to enrich the scene, and contrast their bright tints with the cool grey tones of the adjacent rocks or the deep blue of the more distant mountain ranges, rising tier above tier, like gigantic waves of a suddenly-frozen sea, until the lofty peaks of the farthest line break into solid foam and rise against the azure sky in the white majesty of eternal snow.

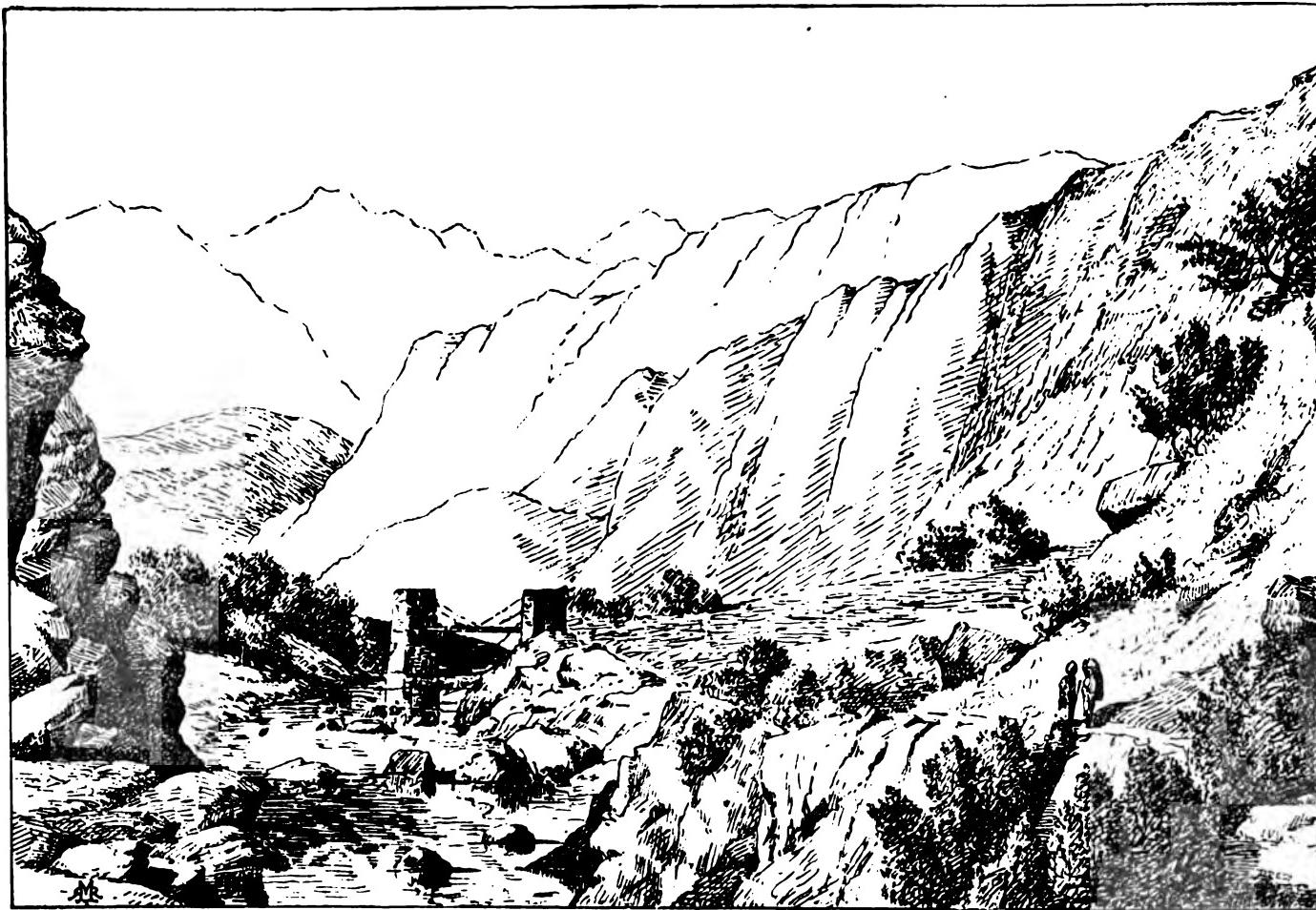
certainly the dullest of Himalayan Hill Stations, and I never was in a place where the truth of the old French chronicler's saying was more forcibly brought home to me—that "these English take their pleasure sadly."

At the foot of Bukrota hill is the church, a pretty little edifice just large enough for the church-going population, though sadly out of proportion to the number of visitors, and likely to be overcrowded if Dalhousie society should ever be subject to a religious fit.

During our stay, two young native chiefs—the Maharajah of Kupoortullah and the Rajah of Chumba—arrived with their retinues. They were an amusing

contrast, Chumba being a tall, slim, active young fellow of dignified presence and courtly bearing, while Kupoortullah was a young Daniel Lambert, round, plump, and merry as a Policinello ; he would persist in trying to play lawn-tennis, and afforded great amusement to the spectators, in whose laughter he joined in a thoroughly boyish and good-natured way. Although of higher rank and much ampler means than the ruler of Chumba he was lower in all other respects, the Hill chieftain being of the highest caste, and tracing his lineage back in an unbroken line far beyond the date of our Norman

from tight packing and scanty furniture. In front of this travellers' bungalow stretches a small grassy expanse, sloping towards the centre which is occupied by a little tarn full of peat-coloured water ; all round rise the columns of the pine-forest clothing the sides of great hills, the resort of argus and moonal pheasants, and sometimes of a stray brown bear. In one corner of the opening lies a tiny village, its chief edifice a roughly constructed wooden temple in which the Brahmin priests are perpetually ringing a cracked bell or blowing a discordant conch-shell—music supposed to



ON THE ROAD TO CHUMBA.

Conquest. A favourite trip from Dalhousie is a visit to his capital, and I cannot do better than give an account of our experiences there.

The road from Dalhousie to Chumba leads through great pine forests, and along mighty mountain-sides, sometimes crossing a range by a *col*, but always maintaining a considerable elevation until it reaches the little half-way house at Kudjiyar, about eleven miles from the starting-point, a small wooden erection containing only two rooms and two bath-rooms, so that if several travellers happen to meet here unexpectedly, and unprovided with tents, a good deal of discomfort results

drive away the evil spirits and attract the beneficent—I must say I should join the former if I had a choice in the matter, were it only to escape that bell !

Soon after leaving Kudjiyar the path begins to descend, and from the brow of a steep hill the traveller catches sight of the flashing waters of the Ravee rushing through a ravine at his feet, on their way to irrigate the parched plains of the Lahore Doab and to plunge into the turbid torrent of the Indus. On the opposite side of the river lie the bright green polo-ground, white palaces, reddish-brown roofs and dark foliage of Chumba, a row of brilliantly glittering yellow discs marking the

gilt umbrella-shaped summits of the tombs of the Rajahs.

A steep descent of some miles brings the road to the river bank, then crossing a suspension bridge of European architecture, it again and still more steeply ascends the cliffs on the opposite shore by a succession of zig-zags ; a flight of steps hewn out of the rock forms a short cut for pedestrians, and at length—hot and breathless—you stand on the summit, and on looking round find that you are in Chumba.

On the verge of a cliff some three hundred feet high, overhanging the brawling waters of the Ravee, rises an old storm-worn Hindoo temple ; in front stretches a level

marigold holds a conspicuous place, as it does wherever the Hindoos are in the ascendant.

At this comfortable Indian equivalent for an hotel we soon settled ourselves—a merry party of five. The two gentlemen left their cards at the palace and then joined the ladies in a stroll, meeting the young Rajah and his companions who had arrived with their ponies on the polo ground, and were just commencing to play when the chief interrupted them while he invited us to dinner that evening—an invitation we very promptly accepted, for the ladies had never been to a purely native repast, and in their case curiosity gave a keener zest to the banquet.



POLO GROUND, CHUMBA.

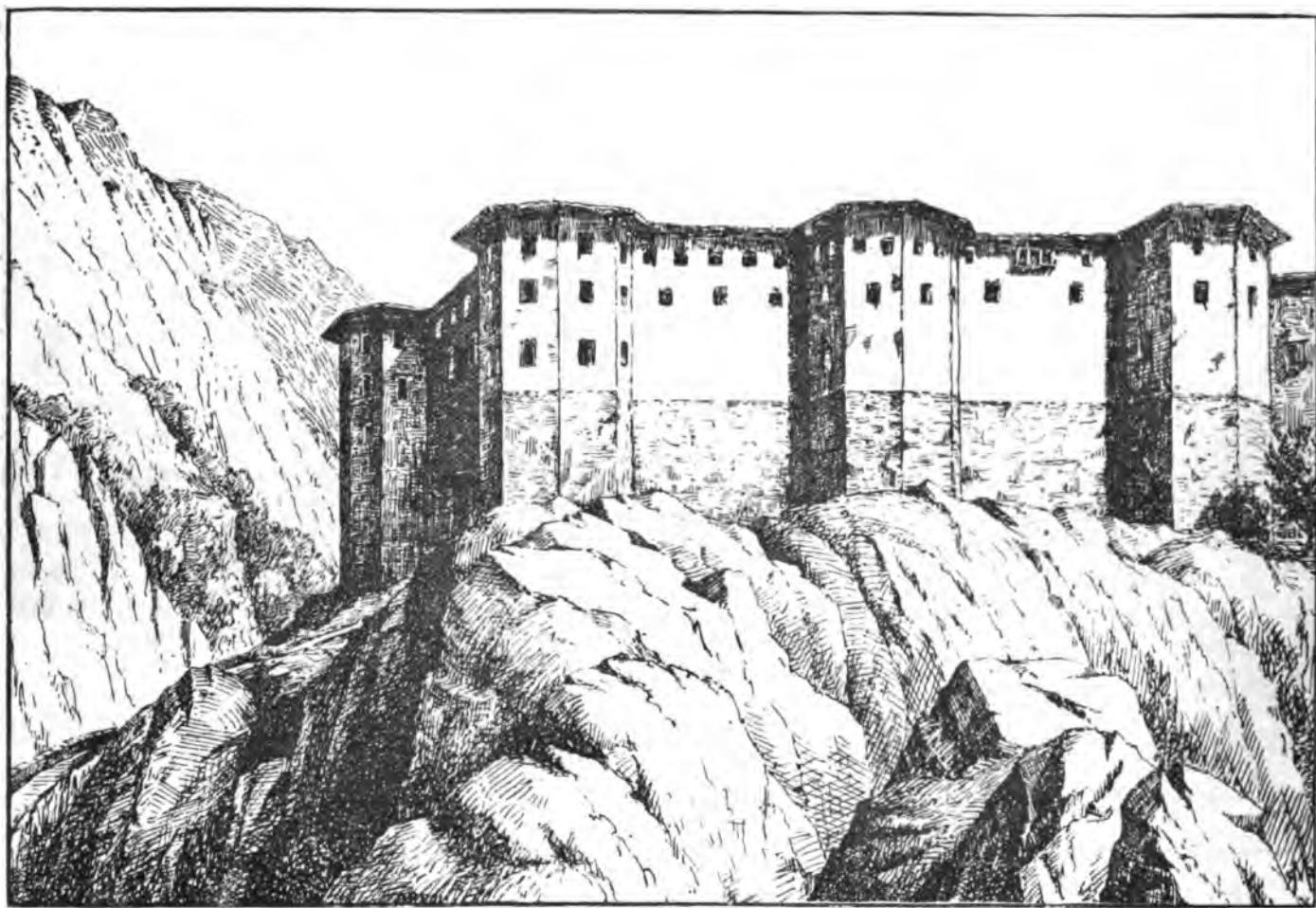
expanse of green turf on which the eye rests with pleasure, having been long wearied with following the ever-varying curves and angles of the ocean of mountains through which we have been travelling ; on one side a wooden palisade protects the edge of the cliff, on the other rises a rocky ridge crowned by the old and new palaces of the Rajah, and skirted by the lines of shops and irregular masses of building which constitute the town of Chumba—the capital of one of the oldest existing Hindoo states. At the western end of the village lies the “dak bungalow,” or travellers’ rest-house, surrounded by a pretty garden filled with roses, lilies, sweet-peas, and other flowers, among which the double

At seven o’clock the Rajah’s cousin, his nearest relative, came accompanied by torch-bearers to conduct us to the Palace. Mounting a very steep ascent by a flight of broad steps, we reached the arched gateway leading into the forecourt, where a guard of honour presented arms ; then a smaller arch admitted us to the private garden, from which again a dozen steps led up to the hall of audience, where the courtly young Rajah received us on the threshold with grave but cordial salutations. He was dressed in a pale yellow silk turban showing one fold of a purple under-turban, a black velvet coat corded and laced with gold, gold sword-belt with a handsome scimitar, white breeches, and knickerbocker stockings

ending in heavy laced shooting-boots. Round his neck hung a double row of gold beads, and in the centre of his forehead he bore the round, wafer-like caste-mark of a high Brahmin. His English shirt was worn native fashion, with the neck-band turned down out of sight and the tails outside his continuations.

The spacious room in which we found ourselves was furnished in European style, with chairs, sofas, and settees covered with stamped crimson velvet; round tables loaded with vases, nick-nacks and photograph albums; chimney-pieces, whatnots and étagères bearing clocks,

apologies that caste prevented his joining us at table, or even remaining in the room while we ate, for in spite of his civilized education he is a Brahmin of the Brahmins. The young Rajah led us up the stairs and into a smaller room where we found a table laid and chairs placed in European fashion, which made us fear we were to be subjected to the ordinary Anglo-Indian meal, but we were soon relieved from all anxiety on that head. Our host wound up and set off four large musical boxes on a side-table, each playing a different tune, and then with a deep bow to his guests left us to our own devices.



OLD PALACE, CHUMBA.

candlesticks, statuettes and groups in bronze or marble, and the whole was brilliantly illuminated by two large cut-glass chandeliers pendant from the ceiling.

At one end of the hall stood the Rajah's State band, consisting of fifteen or eighteen performers who had evidently been trained as musicians in our native army, while at the other end a broad flight of stairs led to other apartments in the Palace.

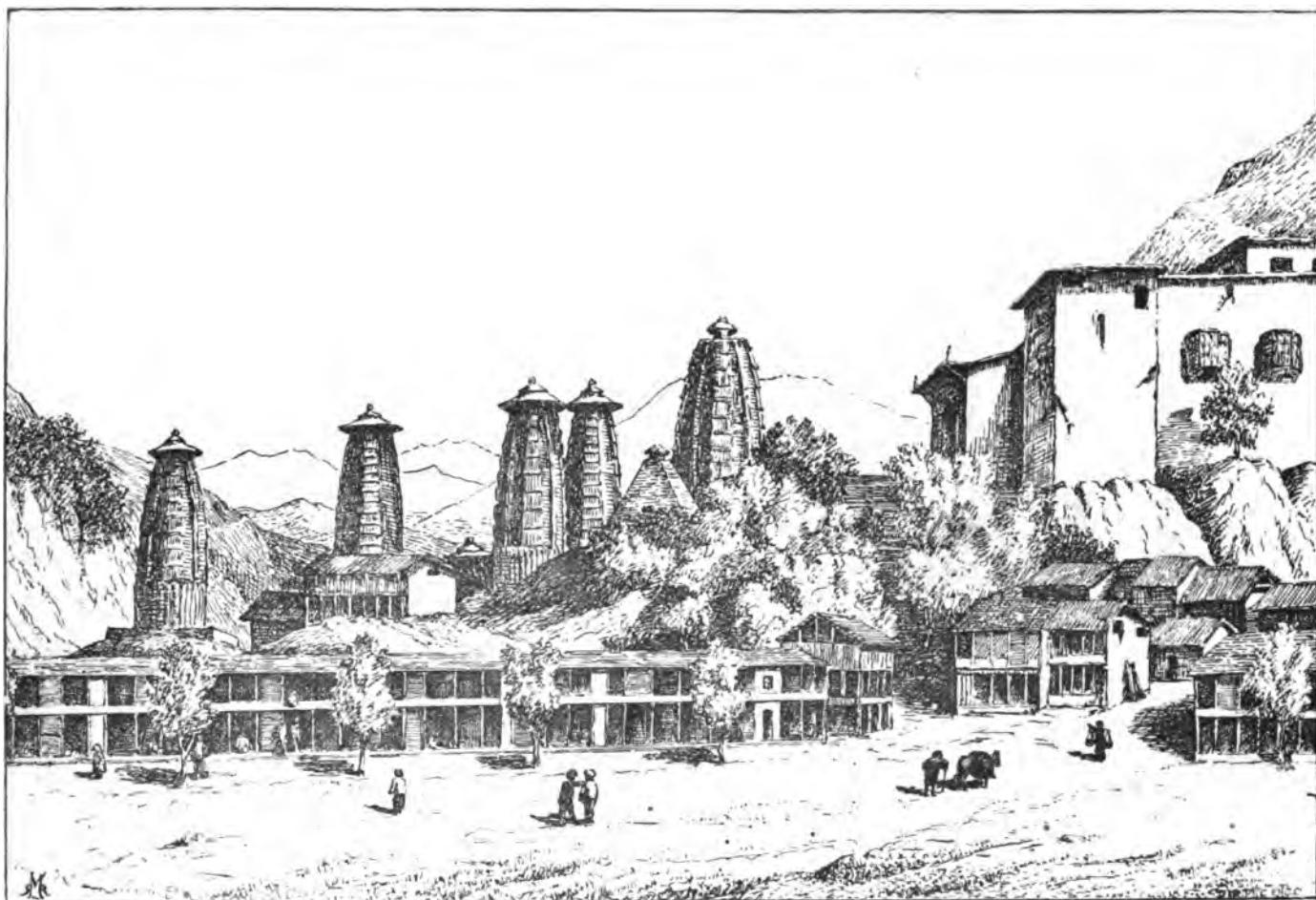
Two or three near relations of the Prince and some of the highest officials were present to receive us, and after they had been duly introduced, the host announced that dinner was ready—whispering in my ear his regret and

I regret to say the first use we made of our liberty displayed gross ingratitude, for as soon as he quitted us we stopped the unbearable discord on the side-table, enhanced as it was by the strains of the band playing yet a fifth tune. And now the servants appeared bearing on brass trays, each of which would make a connoisseur break the Tenth Commandment, a collection of brown bowls; one of these was placed before each of us, and proved to be made of banyan-leaves, cleverly fastened together with long thorns from the acacia-tree; the contents were a very savoury sort of mulligatawny soup, and sweet cakes

were handed round to be eaten with it. Each course was served in the same way, and the reason why these fragile bowls were used was that they could be burnt immediately after we had done with them. The attendants had brought a supply of table-linen, crockery, glass, and cutlery from the dák bungalow, but the eatables were all served in these leaf-bowls, a separate one for each article of food to each person, so that by the end of the meal a considerable pile stood by each of our plates, and so cleverly were they constructed that not a drop of their contents soiled the table-cloth, except when one of the

the solid part of the dinner, and was thoroughly Indian, but the fluid portion showed the degrading influence of western innovation, for instead of consisting only of sherbets and spiced but unfermented drinks, it included wine, beer, brandy, whisky, soda-water, and lemonade. When the long meal was concluded, we rejoined our host in the large hall, and, on our departure, were again escorted back to our lodgings.

The Rajah is doing much for his State, and in many ways. He has founded schools, lightened taxes, started mines, and given a fresh impetus to the little agriculture



BAZAAR, TOMBS, AND PALACE, CHUMBA.

ladies pulled her fragile soup-tureen nearer, and caused the leaves to open a little.

The ménú included, besides the soup, a ragout of kid with savoury herbs and boiled rice; fowl-pilao, and kichree, or rice boiled with sugar, butter, cardamoms, cloves, mace, and fried onions; a sweet curry of fruit and vegetables; kabobs, or pieces of meat, fat and vegetable skewered together alternately and roasted; a hot curry; roast lamb; another pilao of kid, with confitures; kooftas, or meat beaten till the fibre is destroyed, then fried in small round cakes; and, finally, dishes of sweet junket, cakes, sweetmeats, and fruit. This was

possible in that mountain district, where the fields are mere steps cut out of the almost vertical hill-sides, and liable to be washed away by each heavy fall of rain. But his greatest and most important innovation—for it is directly opposed to Brahmin prejudice—is the institution of a charitable dispensary, where English drugs are issued under the superintendence of an English doctor. Those of my readers who know how enslaved by priest-craft and superstition the hill-men are, will appreciate at its proper value the great advance in civilization indicated by these steps, taken by one of the most honoured of the hill chiefs—honoured, not for his wealth

or territory, which are but small, but for his stainless caste and high lineage, qualities prized by these old-



RAJAH SHÂM SINGH OF CHUMBA.

fashioned conservatives far above the sordid advantages of land and money. Even the great Scindiah, the powerful ruler of Gwalior, a General in the English

army and Grand Commander of the Star of India, wielding all but irresponsible power over his vast possessions and millions of subjects, was always alluded to by high-caste Hindoos as "Chumár," "the skinner," to which caste (one of the lowest) he belonged, and from which all his power, wealth, and influence could not raise him; nor could he marry into any family of equal, or even much lower social standing but holding a higher position under that vast and potent hierarchy, compared with whose iron domination the power of the Roman Church is a mere bagatelle.

From Chumba a rough path leads into the Cashmere Valley, but it is seldom traversed save by a wandering sportsman, or a travelling merchant with his small train of "doombas," or fat-tailed sheep, carrying small packs filled with grain, or blocks of rock salt carefully enveloped in skins. Of course this traffic only goes on during the summer months; in winter all communication is prevented by the heavy snow which blocks up the roads, conceals the footpaths and floods the river, isolating the little town as thoroughly as if it were in the furthest wilds of Siberia.

We left Chumba with more regret than we subsequently felt in bidding farewell to pretty but stupid Dalhousie. One of the modes of travel back to the plains is by descending the Ravee on a raft made of a *charpoy*, or native bedstead, supported on earthen jars or inflated skins; these not unfrequently get aground on the numerous sand-banks, and the traveller runs a chance of being detained for hours in a broiling sun. We thought the pleasant shade of the pine forest preferable to the risk, and returned to the railway-station at Pathan Kote in the same prosaic manner in which we had previously ascended the hilly track, but carrying with us the blessings of refreshed spirits and renewed health.

R. R. M.



THE FRENCH RAILWAY CORPS.

BY THE EDITOR.



THE use of the railway as a means of rapidly moving troops and supplies is essentially of German origin. It was first practically applied in the Schleswig-Holstein campaign of 1849-50, although a considerable military party in Prussia was opposed to the innovation. A French officer, travelling in Prussia in 1851, reports that several generals with whom he discussed the advantages and drawbacks of the new method of transport agreed in condemning the use of the railway except in cases of extreme urgency. It was gravely contended that railway travelling tended to impair the discipline of the troops and to lessen their power of marching. For the cavalry it was especially unsuitable, owing to its injurious effect upon the health of the horses; while munitions of war would be liable to premature explosion or other accidents.

Despite these objections, the railway was used by the Prussian authorities with marked success in 1864, 1866, and 1870, since which time every effort has been made to improve and, so far as possible, complete the arrangements for concentrating the greatest number of men on any given frontier at the shortest notice.

Austria was prompt to follow the example of Germany; but, until very recently, France was dangerously inferior to both the great empires, alike in the strength and organization of her railway troops. For many years after the Franco-German war, the French authorities were too fully occupied in reforming fundamental abuses, and in thoroughly reorganizing the army as a whole, to spare much time for the consideration of questions of detail. Previous to 1884, the French Railway Corps consisted of only four companies, and even these were imperfectly equipped and organized. The Russians at that time possessed twenty companies, the Austrians and Germans eight companies each. Moreover, while the French had made no arrangements for increasing the effective of the four companies on the outbreak of war, the Germans were prepared at a moment's notice to raise their railway troops to many-fold their peace strength. Lieutenant Nairle, of the Swiss Engineers, in his report to the Swiss Bundesrath on the German railway organization in 1875, estimated that the war effective of the Imperial railway troops, after calling up the Reserve and Landwehr, would exceed 20,000 men.

The weakness of the French Railway Corps was, indeed, so evident, that the authorities were obliged to call upon the great companies to furnish eight field sections of workmen and artificers if war should break out. The paper strength of each of these sections was 1,165 men, giving a total of about 9,320. The section was divided into three divisions. The first, consisting of about 460 men, was employed in traffic duty; the second, comprising about 430 men, in work on the line; and the third, composed of the remainder, in the working and repair of the rolling stock.

The peace strength of each of the regular companies was four officers and 122 non-commissioned officers and men. In order to ensure their efficient training, the four companies, each of which was nominally attached to a regiment of engineers, were permanently quartered at Versailles. The selection of this place was, under the circumstances, extremely practical. The neighbourhood of the extensive practice ground of Satory, the existence of several lines of railway, and a considerable reserve of rolling stock and other material, were advantages of an extremely valuable character.

The French authorities were, however, for a long time, content with the progress thus made, and were either unable or unwilling to still further increase the strength of the Railway Corps. This was, no doubt, due in great part to the frequent changes in the office of War Minister, which occurred towards the close of the last and the beginning of the present decennium. The successive Ministers held their portfolios during too brief a period to permit the elaboration of a thorough scheme of reorganization.

The long expected and much needed change came under the War Ministry of General Campenon in 1884. By a decree of 30th July of that year, the 20th Battalion of Engineers, stationed at Arras, was converted into the second battalion of the Railway Corps, which has since consisted of two battalions, or eight companies. By this measure, the peace effective of the French railway troops was raised to a level with that of the corresponding German units; and since the change, much has been done to ensure their rapid mobilization.

In May last, however, the Germans again drew ahead. The Army Bill of 1887 more than doubled the effective of the railway troops, raising the number of companies to eighteen—14 Prussian, 1 Saxon, 1 Wur-

temburg, and 2 Bavarian. The French Railway Corps, therefore, is more out-numbered than ever, while there is no reason to believe that its organization will com-

tical experience in railway management, in which their French congeners are almost wholly wanting.

Towards the end of last October the mobilization of



DETACHMENT OF 16TH DRAGOONS BLOWING UP PERMANENT WAY NEAR SCEAUX.

pensate for its numerical weakness. Moreover, it is generally felt that the exclusive control which the German troops have for years exercised over a considerable section of railroad near Berlin has given them a prac-

tical experience in railway management, in which their French congeners are almost wholly wanting.

Towards the end of last October the mobilization of



ATTACK ON ARMOUR-PLATED TRAIN AT MAGENTA-PALAIXAU.

broke off to carry on a series of operations, having for their base the following "general idea":—

"The enemy, who occupied the railway line from Massy-Palaiseau to Valenton, is supposed to be hurled back to the east of Paris.

"On retreating, the enemy leaves a detachment of troops of the Railway Corps between Palaiseau and Wissous to destroy the rails, which are assumed to consist only of a single line.

"The order is given to the Railway Corps to proceed in an armoured train, and make a reconnaissance of the

Our illustrations represent blowing up the permanent way; an attack made on an armoured train; and some varieties of the uniforms worn by the Railway Corps.

Early in the morning a half troop of the 16th Dragoons arrived from Paris at that point of the railway destined for destruction—about one hundred metres from the junction of the Sceaux Railway. Under the personal superintendence of General de Gressot, commanding the Cavalry Division, to which the 16th Dragoons were attached, the troopers blew up the line by means of dynamite and melanite cartridges. Immediately after



CHIEF OFFICER OF TELEGRAPHES.



NON-COMMISSIONED OFFICER (TRAFFIC).

line; then to repair the damage done to the line by the enemy. This done, necessary steps are to be taken at the Wissous Station to provide for the detraining of troops and material.

"The line restored to a state of efficiency, a daily service of ten trains each way will be established.

"Four of these trains will detrain troops at Wissous Station.

"The chief Etappen station will be Massy-Palaiseau."

Following the above general idea, the operations were carried out with marked success under the intelligent direction of the chief officers of the staff.

them came the Corps of Engineer Railway Workmen, and unpinned the rails from the sleepers for a distance of 180 metres. In the meanwhile, the armoured train carrying the detachment charged to repair the line, started from Versailles, Matelots, at 10 A.M., the workmen furnished with all necessary tools and implements to carry on their works.

At 10.45 A.M. the convoy arrived at Massy-Palaiseau, and occupied the platforms, loaded with plant necessary to effect the repairs of the line. At Palaiseau, the chief Etappen station, the detachment entered into the dangerous zone. So it advanced with extreme care and

precaution, reconnoitering the line up to the place where the damage had been done.

The armoured train was composed of six carriages and two trucks, with locomotive and tender. The

likewise provided with a gun of light calibre on the engine and brake, ready for action front or rear. The permanent way was repaired wholly by the engineer workmen of the Railway Corps.



PRIVATE (PLATE-LAYER).



PRIVATE (LABOURER).

engine was placed in the centre of the train with an armoured wagon in front and behind. The walls were of sheet iron 11 mm. thick, and ball-proof. Each side was pierced with eleven loop-holes. The train was

The work of destruction caused in one second's time required the services of sixty-five men for one hour to repair the damage done.



OUR INDIAN MILITARY STATIONS.

By JAMES C. DICKINSON, RETIRED STAFF-SURGEON.

LUCKNOW.



THE capital of the territory of Oudh is situate on the right, or south-west side of the Goomtee, which is navigable upwards for many miles above the town, and downwards through its whole course to its confluence with the Ganges. It ranks fourth in size among Indian cities, being only surpassed by the Presidency capitals of Calcutta, Madras, and Bombay. It stands on both banks of the Goomtee, mostly on the western side, the river being spanned by four bridges, two of them built by native rulers, and two since the British annexation in 1856. Viewed from a distance, the city presents a picture of unusual magnificence and architectural splendour, which fades, on nearer view, into something more like the ordinary aspect of a crowded oriental town. From the new bridge across the Goomtee, the city seems to be embedded in trees. High up the river the ancient stone bridge of Asaf-ud-daulâ crosses the stream. To its left rise the walls of the Maché Bhawan fort, enclosing the Lachman *tilâ* (Lachman's hill), the earliest inhabited spot in the city, from which it derives its modern name. Close by, the immense Imâmbâra, or mausoleum, of Asaf-ud-daulâ, towers above the surrounding buildings. Farther in the distance, the lofty minarets of the Jama Musjid, or cathedral mosque, overlook the city; while nearer again, on the same side of the river, the ruined walls of the Residency, with its Memorial Cross, recall the heroic defence made by the British Garrison in 1857. In front, close to the water's edge, the Chattar Manzil palace, a huge and irregular pile of buildings, crowned by gilt umbrellas, glitters gaudily in the sunlight; while to the left, at some little distance, two mausoleums flank the entrance to the Kaiser Bâgh, the last of the overgrown palaces built by the exiled dynasty of Oudh. South of the city, about four miles from the Residency, on the southern side of the road leading to Cawnpore, is the A'lam Bâgh, a large and walled garden, with a high and pretentious gateway. Beyond the canal, on the east side of the city, is the Martinière, a fine range of buildings; and overlooking this and the eastern suburbs, on the brow of a table-land, stood the Dilkoosha. Still more picturesque panoramas may be obtained from any of the numerous towers and cupolas, which abound in every quarter. But a nearer examination shows that Lucknow does not correspond in its interior arrangements to its brilliant appearance

from a little distance. Nevertheless, many of its streets are broader and finer than those of most Indian towns; and the clearance effected for military purposes after the Mutiny, has been instrumental in greatly improving both the aspect and the sanitary condition of the city. A glacis, half a mile broad, surrounds the fort; and three military roads, radiating from this point as a centre, cut right through the heart of the native quarter, often at an elevation of some thirty feet above the neighbouring streets. Three other main roads also branch out from the same point, one leading across the bridge, and the two others along the banks of the Goomtee. The Residency—an imposing three-storied building, with its roof surrounded by an Italian balustrade—stood on a hill sloping gently towards the river, and is the chief ornament of the city, containing, besides many ruined walls, an old mosque and a magnificent banian tree. It was from the roof of the Residency that the surpassing beauty of the city was best discerned. Standing there on a clear summer evening, one might have seen the distant chaos of the vast city gradually taking shape in narrow streets and twisting lanes, and, nearer still, in cupolas, columns, terraced roofs, gilded domes, and slender minarets, which, flooded in the yellow glow, rose in picturesque confusion above the rich foliage of the surrounding groves and gardens; while on the right stood the huge Maché Bhawan; and behind, the Goomtee, recalling some tranquil English stream, meandered through the fertile plain, and past the bright corn-fields, the mango topes, and the scattered hamlets of the Garden of India.* An artificial mound rises near at hand, its sides gay with parterres of flowers, while in the rear, half hidden by the feathery foliage of gigantic bamboos, the graveyard covers the remains of some two thousand Europeans who perished by war and massacre during the Mutiny.

Till recent years, Lucknow formed the metropolis of a great Mohammedan kingdom, and afterwards contained the administrative head-quarters of a considerable British Province; while, even at the present day, it retains its position as a centre of modern Indian life, being the leading city of native fashion, and the chief school of Indian music, grammar, and Mussulman theology. Since the departure of its Native Court, however, Lucknow may be considered as undergoing a comparative decadence.

* Russell's *Diary in India*, vol. i.

The Oudh and Rohilkund Railway, with its branches, has a central station in Lucknow, and affords direct communication with Benares, Bareilly, and Cawnpore, as well as connecting with the great trunk lines to Calcutta, Bombay, and the Punjab. Among the manufactures of Lucknow may be mentioned the jewellery, which, though like the trade of the *janharis*, or dealers in precious stones, it has declined since the abolition of the luxurious and splendid court, still maintains its excellence, though not its extent. A speciality of Lucknow is what is known as diamond-cut silver ornaments. Facets are cut and burnished which, when in the form of stars, bear, at a distance, a strong resemblance to the flashing of a diamond. Lucknow is also a notable seat for the manufacture of *bidri* ware, as damascening in other metals than gold is called, from Bidar, in Hyderabad, its original home. It is said to have been invented there by one of the Hindoo Kings. The Lucknow manufactures of brass, copper, and mixed metal ware, differ from the Benares ware in that the shapes are more suitable for the Mussulman purchasers than for the Hindus. Cotton-printing is still a successful calling, and the Lucknow chintzes are far superior in colour to those of Manchester—the Kukrail and Baita rivers being famous for the purity of tints that their waters give to the deep-toned dyes of India. The *chikan*, or hand-worked flower muslin, is in great demand by European ladies. The natives are great adepts at this embroidery work. Little girls, five or six years of age, may be seen at the doors of houses, busily moving their tiny fingers over a piece of *tanzeb* (or locally-manufactured muslin), and working flowers, for which they are paid the poor price of a *paisa* (4d.) for the 100 flowers. It is by this early beginning that *chikan* workers attain their great skill in embroidery.

Lucknow is a large cantonment, four marches from Cawnpore. Supplies and water are abundant. The garrison consists of one regiment of English Cavalry, and three batteries Royal Artillery (one R.H.A., one field, and one garrison), occupying new and improved barracks near the racecourse, north of the city, and two regiments of English Infantry, one of Native Cavalry, and two of Native Infantry, the infantry lines (large two-storeyed brick buildings) being close to the bazaar, one mile from the Royal Artillery lines, and two miles from railway station. The rifle range is at a short distance from quarters, the artillery practice ground being at Kushnee, twelve miles distant. The railway station is fortified against an enemy approaching from Cawnpore, and in the same *enceinte* are included the Commissariat Godowns. Lucknow is an exceedingly popular military station, both with the officers and soldiers. Few stations in India afford such a variety of sport, as may be inferred from a visit to the museum, which contains

a skeleton, or stuffed specimen of nearly every animal peculiar to the country. In the cold season the various jheels afford some of the finest wild-fowl shooting in the world. In the hot season, tiger and other big game are plentiful; and those who are fortunate enough to be invited by that popular and accomplished *shikar*, the Maharajah of Bulrampore, will see sport second only to that found in the preserves of the Terai belonging to Jung Bahadoor's successor. The most interesting event in the modern history of Lucknow is the siege during the Mutiny of 1857-58, which it is proposed now to describe.

The effects of the annexation of Oudh resulted in alienating every class from the British, and converting a country, the loyalty of whose inhabitants to the British had become proverbial, into a hot-bed of discontent and intrigue. Lord Canning's anxiety for Oudh was considerably increased on his receiving the announcement of the rising at Meerut, and he felt seriously alarmed for the safety of the province, of which Lucknow was the capital. In common, however, with every Englishman in India, he drew comfort from the reflection that its chief commissioner was Henry Lawrence. On the 20th March 1857, Sir Henry Lawrence assumed the chief commissionership of Lucknow, and he quickly detected that the new system was not working satisfactorily. "He had great sympathies with the people. He thoroughly understood them. He knew that their feelings, their interests, were thoroughly conservative; that they distrusted change in the abstract; that if one thing more than another would rouse their long-suffering and docile nature, it would be change coming upon them suddenly, harshly, unaccompanied either by warning or argument. Sir Henry Lawrence noted that not only was there discontent, but that there was reason for that discontent, and he at once made it his business to lessen, as far as he could, the oppressive action of the heavily-imposed regulations." While discontent and disaffection prevailed, the "caste question" cropped up. Malleson says: "That the sepoys believed that the greased cartridges were designed to deprive them of their caste is, I think, not to be questioned. But they believed that calumny, mainly because the action of the British Government, with respect to their own province, had so shattered their faith in professions of the ruling power, that they were ready to credit anything against it. Mr. Beadon called the action of the Sepoys 'a passing and groundless panic.' But, as I have said elsewhere, if it was a panic, it was not a groundless panic. In a greater degree the annexation of Oudh and the measures which followed that annexation, in a lesser degree the actual employment of animal fat in the composition of the cartridges, constituted ample grounds for the distrust evinced by the Sepoys." Sir Henry Lawrence studied the position, but feared the evil was too

far advanced for him to instil confidence in the minds of the people of the newly-annexed province, especially as Oudh—the home of the Sepoys—supplied three-fifths of the recruits annually enlisted in the Bengal army. "Every feeling engendered in the ranks permeated through Oudh, whilst the notions imbibed in the homesteads of the peasants found an echo in the regiments of the native army." Sir Henry Lawrence, from the very moment of his arrival, laid himself out to remedy the most pressing evils, and partially succeeded with the aristocracy of the Court, by the immediate payment of their pensions, which had been promised, but till then had been withheld. And with the territorial magnates he dealt in the same enlightened spirit. The case of

of Oudh rendered as little ruinous as possible to all the chief people of the province, as he did to convict his subordinates of official misdemeanours, it would have been better both for his own character and for the character of the nation."

The outbreak.—Symptoms of disaffection occurred as early as the month of April, when the house of the surgeon of the 48th Native Infantry was burned down in revenge for a supposed insult to caste. Further indications soon intimated very plainly that the feeling which had manifested itself at Berhampore was not less strongly rooted in Oudh. Sir Henry Lawrence immediately took steps to meet the danger by fortifying the residency and accumulating stores. The garrison of



RUINS OF THE RESIDENCY, LUCKNOW.

the disbanded soldiers was more difficult. Only a comparatively small number of the cavalry availed themselves, however, of this privilege. In many cases they did not hesitate to state the reason of their refusal. "I have eaten the king's salt, and will not touch that of another."

Sir Henry Lawrence would probably have wholly succeeded in restoring confidence to all classes, if he had in the first instance been sent to Oudh. Great mischief had been done by his predecessor, Mr. Coverley Jackson, of whom Kaye writes: "Had Coverley Jackson taken half as much pains to see that the pledges of the British Government were fulfilled, and the annexations

Lucknow consisted of the 32nd (British Regiment), a weak company of European Artillery, the 7th Regiment Native Light Cavalry, and the 18th, 48th, and 71st Native Infantry. In or near the city were also quartered two regiments of Irregular Local Infantry, together with one regiment of Military Police, one of Oudh Irregular Cavalry, and two batteries of Native Artillery. The town thus contained nearly ten Indian soldiers to every European, or, to put it in numericals, 7,000 native soldiers to 750 English. Sir Henry Lawrence made earnest appeals to the native officers and men on the subject of the alleged attempt on their caste—to be faithful to their duty—to be loyal. "It is impossible,"

writes Captain Hutchinson, Military Secretary to Sir H. Lawrence, "here to mention the various steps taken by Sir Henry Lawrence to preserve the soldiery in their duty, and the people in their allegiance. Every conciliatory measure was adopted consistent with the dignity of the British Government; and there is no doubt that by his untiring energy, discretion, ability and determination he did *fan* into a flame for a while the wavering loyalty of many of the native officers and men, and that the army and people generally felt that his was a firm and experienced hand."

Seeing, however, the full extent of the coming danger, Sir Henry prepared to meet any possible emergency by making the Residency defensible, and effecting a better location of the European troops. With this end in view he began to clear away the huts and other obstructions which occupied the ground close to the Residency; to lay in supplies of grains of all sorts, and European stores; to accumulate powder and small ammunition, and to dig pits for their reception; to arrange for a constant water-supply; by degrees to send for the treasure from the city and outlying stations; and to form outworks in the ground encompassing the Residency. At the same time he moved up to the vicinity of the barracks of the 32nd Foot four guns of the native battery stationed at Maraion. On the 80th April the first symptoms of the coming storm showed themselves. The 7th Regiment of Oudh Irregular Infantry was taken out by Lieutenant Mecham, the Adjutant, for ball practice, when they suddenly showed a disinclination to use the new cartridge. Mecham pointed out to them that the cartridge was similar to that which they had been using the previous fortnight. This seemed to satisfy the men, and they proceeded with the practice; but the next morning, the men positively refused to bite the cartridge, to receive it, or even to touch it. The next day was spent by the men in brooding over their grievances, and on the 3rd of May they had arrived at the conclusion that they must kill their European officers. The latter, warned in time by the Quartermaster-Sergeant of the disposition of the men, nobly did their duty, and succeeded after a time in inducing the Sepoys to return to their lines, though they refused to surrender their arms. Sir Henry Lawrence was not content with this doubtful triumph. The men of the 7th were paraded. The question was put to them, whether they would continue to bite the cartridge or whether they would refuse. The men, in an insolent and sullen manner, promised to obey. The force organized by Sir Henry, consisting of the 32nd Foot, an European battery, three regular native regiments of infantry, and one of cavalry, arrived soon after on the ground. The 7th were at once formed up and ordered to lay down their arms. In the presence of this imposing force, and of the lighted portfires of the gunners, they had no option but to comply. Most of

them fled panic-stricken, and the next day the ring-leaders were seized.

Although everything pointed to the coming crisis, still Lawrence was hopeful enough to believe that it might be possible to do something to eradicate even a wide-spread and deep-rooted delusion. A Brahmin jemadar of the Oudh Artillery had told him that he was convinced that for ten years past the Government had been plotting the fraudulent conversion of all the natives, and added, "I tell you what everybody says."* Accordingly, he invited the native aristocracy, the European and native civil officials, the European and native officers, and about fifty privates from each native regiment. The Durbar was fixed for the 12th of May. The sepoys arrived at the appointed hour. The officers seated themselves upon the chairs which had been provided for them; while the men clustered about in groups behind. At sunset the Chief Commissioner himself appeared, attended by the principal military and civil officers, and some of the influential natives of Lucknow. Near him were deposited in trays the presents and rewards to be bestowed upon the loyal native officers and soldiers. But before distributing these, Sir Henry addressed, in Hindustani, the assembled company. He looked, indeed, like one who would speak straight home to the hearts of his hearers; for upon his face were stamped the unmistakable signs of a chastened enthusiasm, a holy sincerity, and an all-embracing charity. Then, while every eye was bent upon him, and every ear was strained to hear him, he stood up to address a last appeal to the good sense and the loyalty of the representatives of the native army. He asked them to contrast the tyranny and the persecution of the Mogul Emperors at Delhi and of the Hindoo rulers of Lahore with the beneficence and the tolerance of the British Government. He urged them not to listen to the lying tales of interested agitators. He reminded them of the proved ability of his countrymen to punish those who resisted their just authority. He adverted to our power, to our exploits in the Crimea, to our ships, our resources; pointed out how hopeless of ultimate success would be a crusade against the English. Finally he besought them to remember that they were soldiers decorated, like himself, for honourable service against the enemies of England, and adjured them to refrain from tarnishing the glorious record of the Bengal army. He then caused the deserving native officers and soldiers to be brought up to him, and presented them with dresses of honour, and purses of money, and held them up as an example to their comrades. When the Durbar broke up, there was not probably a man present who was not loyal. But the opposite feeling was too deeply rooted to be dissipated by a passing sensation. It was on the day after the holding of the Durbar that the fact of the outbreak of Meerut was telegraphed to

* *The Life of Sir H. Lawrence*, p. 573.

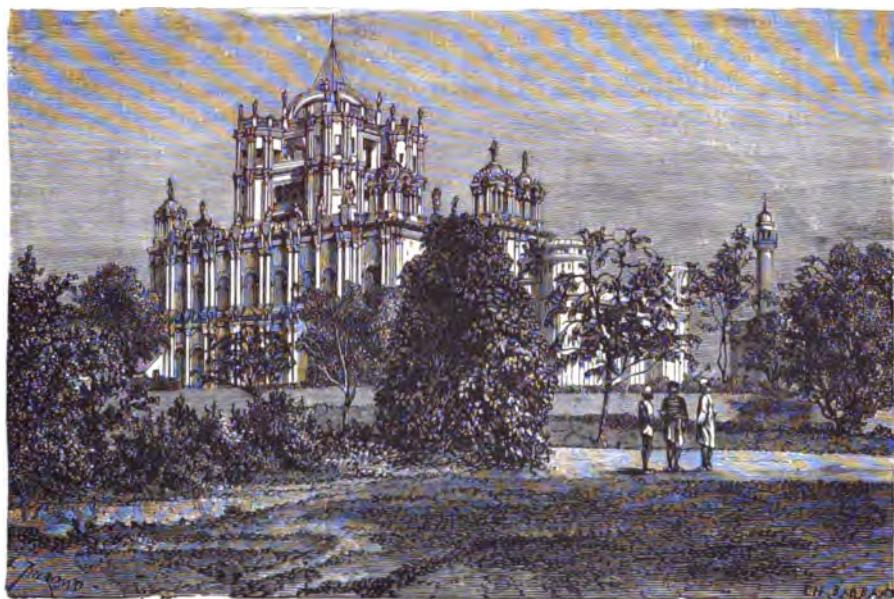
Lawrence. On the 14th he received the further news of the seizure of Delhi. Gubbins, however, was the first to discern how the calamity might affect the condition of Lucknow. He foresaw what no one else had as yet thought of, that the Residency, the most important position in the city, would probably sooner or later be attacked.

The existing arrangement of the garrison was strikingly defective. The native regiments were stationed in various quarters within the city itself, and on either side of the river; while the 32nd Foot, the only European regiment, was massed in a barrack just outside the city, and about a mile and a half to the east of the Residency. Thus, if the Sepoys chose to mutiny, they would have plenty of time to murder their officers before the British troops could come to the rescue. Even the Residency, surrounded though it was by Government buildings,

preparations which were being made at the Residency for their reception might inflame the Sepoys to rise if they were not instantly overawed.

On the 17th May the women and children and invalids belonging to the 32nd were likewise brought up to the Residency. Half of the 32nd Regiment occupied the ground about the Residency. The remaining portion of the 32nd were brought up from the city to watch over the native regiments at Mariaon, a cantonment situated on the north side of the river, about three miles from the Residency. The bridge of boats was removed nearer to the Residency, and brought under control. At the same time the Maché Bháwan was occupied by a detachment of Europeans and a selected body of Sepoys.*

Sir Henry Lawrence—partly on account of the occurrences at Meerut and Delhi, and partly on account of the conflict of opinion that had arisen between himself



THE PALACE OF CLAUDE MARTIN, LUCKNOW.

offices, and bungalows, was at the mercy of the native guard. To remedy this obvious defect, Gubbins vehemently urged upon his chief the necessity of moving up a party of European troops for its protection. But though Lawrence had long felt that he must sooner or later make an improved disposition of the troops, he opposed the suggestions of Gubbins, on the ground that they might have the effect of precipitating a mutiny. It was the same theory that deluded Sir Hugh Wheeler, the same theory that was put into practice so often, and with such disastrous results in the summer of 1857. As the chief military authorities agreed in supporting Gubbins' view, Lawrence gave way. But even then he would have allowed two days to elapse before bringing up the European troops, so averse was he to show premature distrust of the Sepoys. But Gubbins roused him to instant action by pointing out that the sight of the

and Mr. Gubbins, whom he describes as "a gallant, clever, energetic fellow, but sees only through his own vista, and is, therefore, sometimes troublesome"—on the 16th May telegraphed to the Governor-General: "Give me plenary military power in Oudh, I will not use it unnecessarily." Lord Canning promptly replied; on the 19th he conferred upon the Chief Commissioner the plenary power asked for, and on the 22nd he gave him authority to apply to Jung Bahadoor for his Ghoorkha troops.

Armed with this authority, Sir Henry now assumed command of the troops in Oudh, with the rank of Brigadier-General. Sir Henry's military arrangements were as follows:—The Residency and the Maché Bháwan, he made as strong as he could, and to be fortifi-

* Holmes' *History of the Indian Mutiny*, p. 246; *Life of Sir H. Lawrence*, p. 574; *Gubbins*, pp. 8, 18-19.

fied in view of an attack. He removed the spare ammunition from the magazines into the Maché Bhawan. He seized the earliest opportunity of garrisoning that place with Europeans, of storing supplies there, and mounting on the ramparts guns of sorts. In the Residency compound over the Treasury he posted a mixed guard of two hundred Sepoys, one hundred and thirty Europeans, and six guns—the guns being so placed that they could at the first alarm, be brought to bear on any mutineers. Guns, ammunition, and supplies of every kind were stored within the Residency, and the surrounding houses were cleared away, which might have afforded cover to a besieging army; but when he was urged to destroy the adjoining Mosques, he replied, with characteristic regard for native feeling, "Spare the holy places." The third post was at the old cantonment of Mariaon. It was garrisoned by 340 men of the 32nd Foot, 50 European artillerymen and six guns, the three native regiments, and a battery of native artillery. Here, Sir Henry, for the time, took up his quarters. The ladies and children were then moved into the houses within the Residency enclosure, as well as the families and sick men of the 32nd Regiment. At the same time the clerks, copyists, section writers, and others of that class were armed and drilled.

Sir Henry, on the 27th May, wrote to Lord Canning : "Both the Residency and the Maché Bhawan are safe against all probable comers." While these preparations were going on, there were many signs that the budmashes of Lucknow were ripe for sedition. The Sepoys were still restless and excitable. The unmistakable symptoms of constantly-recurring fires proved that they were bent on mischief. Mutinous feelings in the districts began to develop themselves, and on the night of the 23rd of May a telegram from Cawnpore announced that a mutiny was momentarily expected there. As it was feared the infection would communicate itself at Lucknow, the ladies were warned to take refuge at once within the Residency and the surrounding houses. Yet, throughout the worst period of suspense, the most desponding trusted in Lawrence's judgment. Mutinous feelings began to show themselves all around. The long smouldering discontent of the turbulent Mussalmans of the Malhiabad district burst into a flame, which neither the bearing nor eloquence of Captain Gould Weston and the gallant Mecham succeeded in subduing; and had it not been for their coolness and daring, they would never have got back to Lucknow. This was followed by the massacre of all the officers with the detachments of the 48th Native Infantry and 7th Cavalry, with the exception of Lieutenant Boulderson. Captain Hutchinson and Major Marriott, who had declined to cross the river, returned in safety to Lucknow. On the evening of the 30th of May the insurrection broke out at Lucknow. At 9 o'clock the evening gun fired as usual. The men of the 31st

Regiment, previously told off in parties, started off at this signal to fire the bungalows and murder their officers.

"Towards the end of May," writes Holmes, "a daring plan was suggested to Sir Henry, the adoption of which would probably have at once destroyed one of the most fruitful sources of his anxieties. The author of this plan was Martin Gubbins, and the plan was to disarm the native regiments at Lucknow. Lawrence rejected it on the ground that as he was Chief Commissioner, not of Lucknow only, but of the whole of Oudh, he would not be justified in taking a step that would probably have the effect of driving the regiments at the out-stations to revolt. His argument was substantially the same as that which Lord Canning urged in support of his own refusal to disarm the regiments at Dinapore, a refusal which produced the most disastrous results." The whole question is very fairly put by Holmes, who thus concludes, "Reviewing, then, the question by the light of history, it is impossible to deny that the policy which Gubbins recommended was the best policy; it is even possible that it might have blighted the crop of mutiny and rebellion throughout the whole of Oudh." He refers to the achievements of Willoughby Osborne at Rewah, and the policy adopted at Peshawur by General Cotton.

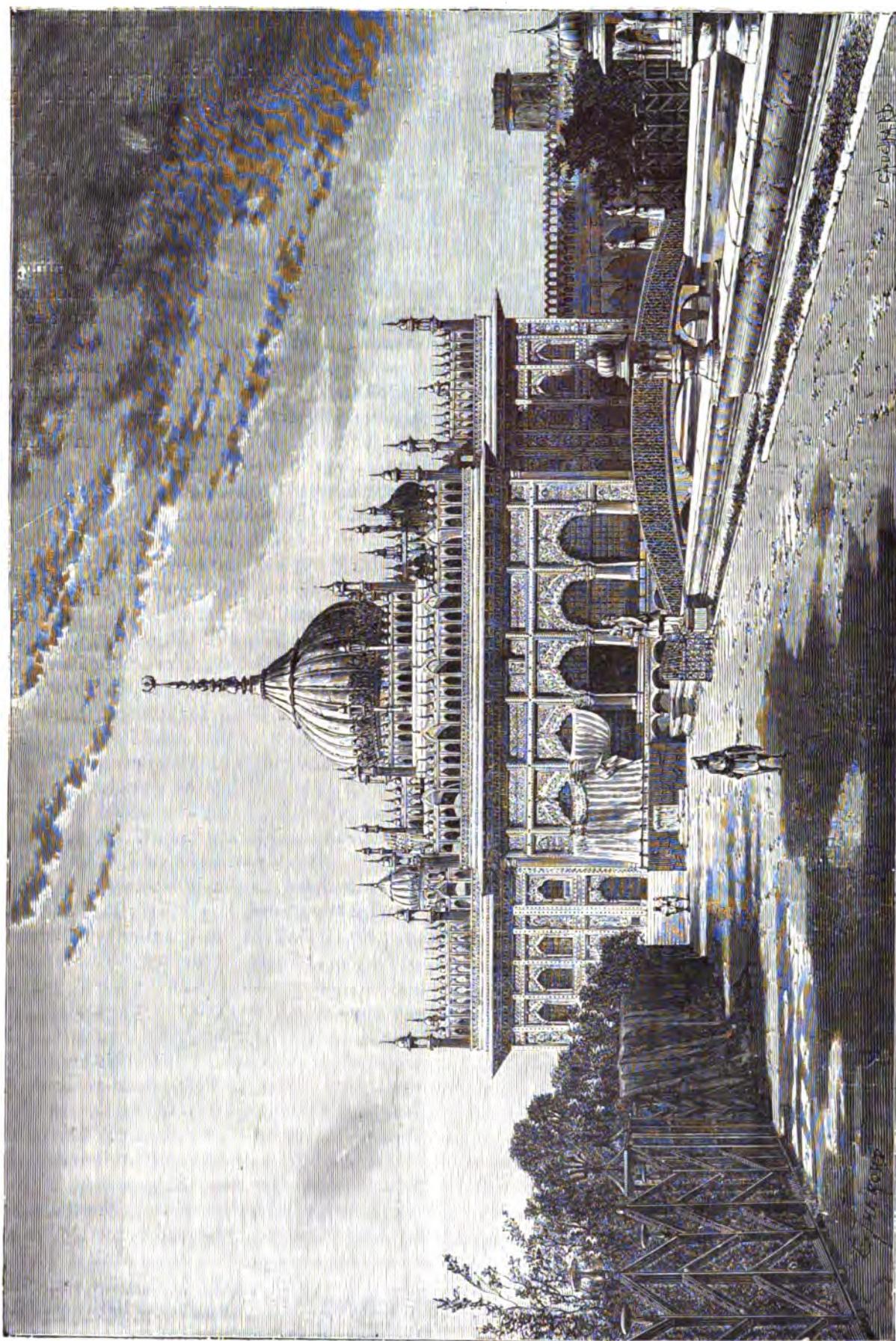
On the 30th May, Sir Henry was dining at the Cantonment Residency of Mariaon. One of his staff, Captain Wilson, who was present, speaking from information supplied by a faithful Sepoy, had warned him that the mutiny would break out at the firing of the nine o'clock gun. The gun fired, but all for a moment seemed quiet. Sir Henry leaned forward, and said, "Your friends are not punctual." The words were scarcely uttered before the crack of musketry was heard coming from the lines. The guests rose at once with their host, ordered their horses, and went outside the Residency door to wait for them. They were in the full glare of Mr. Couper's house, which, fired by the mutineers, had burst almost instantaneously into a blaze. Directly opposite the group the native guard on duty was standing ranged in line, at a distance of about forty paces. The Soubadhar then came up to Captain Wilson, and, saluting him, said, "Shall I order the guard to load with ball?" Wilson referred the question to his chief. "Oh yes," replied Sir Henry, "let them load." The men rammed their charges home; Sir Henry and the officers still standing in the glare of the fire. The Sepoys then brought up their muskets to the capping position, and proceeded to adjust the caps. The next movement of the Sepoys was eagerly waited for. They had the life of the Chief Commissioner of Oudh and his staff entirely at their mercy. One disaffected man, bold enough, could, then and there, have decided the fate of Lucknow. But if they meditated murder, the Sepoys

were overawed by their resolute bearing. "I am going," he cried, "to drive those scoundrels out of cantonments; take care while I am away that you all remain at your posts, and allow no one to do any damage here, or enter my house, else when I return I will hang you." They did remain at their posts; and the Residency was almost the only house in the cantonments that was not either plundered or burned that night. Sir Henry's movement's to suppress the mutiny were chiefly directed to prevent, as far as possible, communication between the mutineers and the disaffected citizens. On his way he found 300 men of the 32nd, four guns, Major Kaye's battery, and two of the Oudh force, posted in a position on the extreme right of the 71st lines, and contiguous to the road leading from cantonments to the city. Sir Henry took with him two guns and a company of the 32nd to occupy the road leading from the cantonment to the bridge. He sent back shortly for the remainder of the Europeans and for two more guns.

The mutineers, on first rising, rushed down to the mess-house of the 71st to murder their officers, who luckily had just left; so they fired it. Nor was their longing for English blood wholly disappointed. Brigadier Hanscomb, riding from his house straight into the 71st lines, was immediately shot. Then, emboldened by success, they ventured to open fire on the detachment of the 32nd, but, receiving a shower of grape in reply, they broke and fled. The outbreak would have been more formidable if all the native regiments had joined in it. But only one, the 71st, took an active part in the mutiny, and even in its ranks all were not traitors. Many of the other troops, indeed, went over to the mutineers, or slunk away from their lines before the night was over; but about three hundred of the 18th Native Infantry, with their British officers, their colours, and the regimental treasure, marched up and enrolled themselves with the British. They were followed by a very few of the 71st, without, however, their colours or their treasure. At daylight next morning, Sir Henry, on learning that the rebels had retired on Mudkipur, followed them thither. They fled after a few discharges from his guns, including the 7th Cavalry. Our troops followed them up for about ten miles, and took sixty prisoners. In this pursuit Mr. Gubbins greatly distinguished himself, capturing six of the enemy with his own hand. In announcing the suppression of this rising to Lord Canning, Sir Henry Lawrence wrote: "We are now positively better off than we were. We now know our friends and enemies. The latter have no stomach for a fight, though they are capital incendiaries."

This was true, but the knowledge had been purchased at the cost of a mutiny, a street riot, and the lives of three British officers. If Gubbins's counsel had been accepted, the enemies would never have dared to make themselves known. Hitherto the country districts of Oudh had

remained tranquil. But after the outbreak at Lucknow, the aspect of affairs suddenly changed, commencing with the outbreak at Seetapore, after which the mutiny became general throughout the province. History does not afford a more painful and distressing account of what our countrymen, women, and children suffered, than in their attempt to escape from Seetapore and the other districts, where they were either maltreated, half starved, or murdered by bands of mutineers. The native population, however, treated the suppliant Europeans with genuine kindness. Their conduct might have been different if Lawrence had not laboured, as he had done, to repair the wrongs which they had suffered at the hands of his predecessors. In every instance the mutiny of a regiment was followed by the loss of the district to which it belonged. Within eleven days after the mutiny at Lucknow, there was not a single representative of the British Government to be found at any of the stations in Oudh. The affairs at Lucknow now remained comparatively quiet. The worst symptom that appeared after the mutiny of the 30th May was the slackness of trade. Still the merchants, though they had lost their confidence in the stability of British rule, were ready to support it so long as they could do so with safety. The repression of the mutiny of the 30th and 31st of May at Lucknow had, at least, rid the cantonments of the least trustworthy of the Sepoys. But Sir Henry Lawrence was an altered man. He had never known how to take life easily; the incessant labour, mental and bodily, the deprivation of sleep, the constant anxiety—the life at high pressure—had told upon his health, when the heart-breaking announcements that reached him early in June utterly prostrated him. It was necessary that he should rest. Feeling that he might break down at any moment, he telegraphed to Lord Canning on the 4th, begging that if anything should happen to himself, Major Banks, the Commissioner of the Lucknow Division, might be allowed to succeed him as Chief Commissioner, and Colonel John Inglis, of the 32nd, as Commander of the Troops. "This," he insisted, "is no time for punctilio as regards seniority. They are the right men; in fact, the only men for the places." On the 9th June he had become so weak that he was obliged to delegate his authority to a council, of which Gubbins was appointed President. Since the 30th of May, Gubbins had tried to induce Lawrence to disarm the Sepoys, but he never actually so far succeeded as to induce Lawrence to take the decisive step. As President of the Council of Five, he insisted, then, that the Sepoys who still remained in the lines should be disarmed and dismissed. In vain it was pointed out that these men had remained loyal; Mr. Gubbins would listen to no argument. He so far succeeded that the other members of the Council agreed to allow one company, which had shown positive signs



HUSSAINABAD IMAMBARA. LUCKNOW.

of disaffection, to be disarmed ; but they would not suffer the other troops to be included in the measure. Then Gubbins resolved to gain his end by a compromise. He persuaded his colleagues that it would be advisable for the commanding officers to induce their men to go home until November. On the 12th June, the resolution was carried into effect, and he actually started off to their homes all the Sepoys belonging to the province. "This act," says Malleson, "had upon Sir Henry Lawrence an effect more decisive than the prescriptions of his medical advisers." He became so excited on hearing of it, that he dissolved the Council, and sent messengers to recall all the Sepoys who might wish to return, and had the satisfaction of seeing numbers return. The pensioned Sepoys also hastened to Lucknow when summoned by circular, and by these means a loyal native brigade, nearly eight hundred strong, was formed. The next incident (the 12th of June) was the revolt of the military police, both cavalry and infantry. On hearing of the departure of the latter, Captain Gould Weston, the Superintendent of the entire corps, instantly mounted his horse, and, taking with him only two sowars as his escort, galloped after them, and overtook them about five miles from the Residency. Some few he induced to join him, but the majority declared they had gone too far to draw back. One man, indeed, levelled his musket at Weston ; but his comrades indignantly struck it down, exclaiming, "Who would kill such a brave man as this ?" The work of strengthening and provisioning the Residency was now going on apace. The outer tracing had been connected by breastworks ; ditches had been excavated in front of them, and parapets erected behind them ; at certain points, ramparts had been thrown up, and embrasures had been pierced ; slopes had been scarped ; stakes and palisades fixed ; some houses had been demolished, windows and doors had been barricaded, walls had been loop-holed ; all the ordnance belonging to the ex-King of Oudh was brought within the defences. The idea of defending the Maché Bhawan was abandoned by Sir Henry, but it was still made use of as a storehouse for supplies and ammunition. At this time he was much harassed by the manner with which Gubbins criticised his measures and offered suggestions of his own.* The Financial Commissioner vehemently argued that the British force, instead of remaining inactive at Lucknow, should attack the rebels who were marching on Chinhut. At last Lawrence yielded to Gubbins's arguments, and took the step that immediately caused the siege of Lucknow. Sir Henry's first step was to withdraw the troops from the cantonments, and to bring them within the Residency. He then ordered that a force composed of 800 men of the 32nd Regiment ; 280 men of the Regular Native Infantry ; the small troop of Volunteer Cavalry,

36 strong ; 120 troopers of the Oudh Irregulars ; 10 guns and an 8-inch Howitzer, should assemble at the iron bridge at daylight the following morning. He had intended that the march should begin at daybreak ; but the sun was high in the heavens before all the preparations were completed. The troops were exhausted by many previous days and nights of harassing duty ; and, contrary to his orders, neither food nor drink had been served out to them. Some drooped by the way ; others drooped, but toiled on. Thus the force marched on to the Kokaralee Bridge, and halted. They were in no mood to go on further, on that hot June morning, and joyfully they stood with their faces towards Lucknow. But suddenly an order was issued for an advance to Chinhut. Lawrence had placed himself at the head of the force, and was bent upon a further reconnaissance, so they struggled along the rugged causeway and approached a village called Ishmaelgunj, when, suddenly, a round shot came crashing into their midst, and immediately afterwards they caught sight of the enemy, who had hitherto concealed themselves behind a long row of trees which stretched in front of the village of Chinhut. Lawrence at once deployed his infantry into line. Then placing his European guns in position, and ordering the infantry to lie down, he returned the enemy's fire. For some time an artillery duel was kept up. Then there was a lull in the firing of the enemy, which led Lawrence to believe that they were losing heart, when the enemy suddenly divided, and menaced both flanks in considerable force. Then, for the first time, the British leaders knew with what they had to contend. The plain between Ishmaelgunj and Chinhut was "one moving mass of men ; a field-day on parade could not have been better." The Sepoy regiments, flaunting their standards, advanced to the attack. In a few moments the enemy had captured Ishmaelgunj. The British soldiers attempted to win it back ; but they were too tired and disheartened to succeed ; and in a very few minutes nearly half of the 32nd present, with a large proportion of officers, including Lieut.-Colonel Case, were lying dead or disabled on the ground ; and presently the force fell back in confusion on the road.

Meanwhile every effort had been made to bring the native artillery into action, but with very indifferent success. The native artillermen were traitors. Two of the guns had been upset in the ditch, and the traces of some of the others had been cut. Then Lawrence, seeing he was in danger of being surrounded, gave the order to retreat. To save the guns and the wounded was not possible in the face of such overwhelming numbers. The retreat soon became a rout. The enemy's horse artillery, galloping on either flank of the fugitives, harassed them with an unremitting discharge of grape. Many of the 32nd were so exhausted that they deliberately lay down to die. At last the Kokrail bridge was reached,

* *Life of Sir H. Lawrence*, p. 598.

The enemy's cavalry, however, had hastened to occupy this point, and now prepared to dispute the passage. But on our side there was no hesitation. "Captain Radcliff's trumpet sounded the charge, and instantly our thirty-six horsemen dashed at the enemy; a more gallant charge was never made. It appalled the rebels. They did not wait for it, but turned and fled. The line of retreat was secured." The danger, however, was not over. The heat was excessive, and many who had escaped the enemy's fire, exhausted and parched with thirst, could scarcely drag their weary limbs along the road. The insurgent cavalry were following them, and the soldiers had to fight their way, against tremendous odds, to the capital. At last the Residency was reached,

and then ensued a terrible scene of terror and confusion. Labourers working at the unfinished defences flung away their tools; native servants deserted their masters; women ran for their lives from the outposts, and huddled, in an agony of terror, into the rooms of the Residency; while the foremost bodies of the victorious rebels, dragging their guns into position near the Residency and Maché Bhawan, and loop-holing them in the most effective manner, poured in a tremendous shower of musketry that never slackened day or night. "Soon their whole force had completely invested the British position, and the blaze of their watch-fires and the flash of their guns lighted up the darkness of the night, the first night of the siege of Lucknow."

J. C. D.

(*To be continued.*)

NAVAL AND MILITARY NOTES AND QUERIES.

DISCIPLINE.—(*Continued from p. 81.*)

It would be a fatal error to imagine that a strict administration of the laws can be dispensed with, as this constitutes the framework upon which discipline is constructed. The impression thereof is all the deeper in that the necessity for obedience extends alike to high and low throughout the army. Example has a far greater effect than precept, whether given in writing or by word of mouth. When the soldier sees those above him obey, he takes the lesson to heart. It is not, however, enough to obey the superior who is at the moment giving orders; it is to duty above all that obedience must be paid. Nothing should appear to the soldier more sacredly binding than the requirements of his calling. The common, every-day duties are more intelligible than the higher duties to the private soldier. Hence comes the value of the regulation in the German army, that the officer should begin by performing all duties of the private. He must first learn to obey, so that he may be able to command; that is to say, in the right manner, and in a way intelligible to the plain sense of the common soldier. Further, this is his only chance of becoming thoroughly acquainted with the performance of the lowest class of duties, according to his knowledge of which the men will after all really judge him. The zeal with which the so-called *minor* duties have been for so long a time carried out in the

German army is by no means the result of routine or of unproductive pedantry, but is rather due to the moral aim of creating in the soldier's mind a representation of duty in a manner adapted to his intellectual powers. The conscientiousness in small things should certainly not be confined to the mere technical details of military life; on the contrary, the many things which do not appear on the surface, and which are required to make a man of the soldier, deserve special consideration. A disposition to cleanliness, love of order, punctuality, carefulness, faithfulness, and decision, will best contribute to the establishment of good discipline. The custom has hitherto prevailed of leaving certain minor details of administration, such, for instance, as concerns the clothing and subsistence of the men, in the hands of company officers. This is not done with a view to economy, but in order to strengthen the influence of the officer over those under him by means of the intimate intercourse thus produced. An officer's work in the stores, and in the barrack-room, in visiting cook-houses, and other offices, makes of the company commander the guardian and main prop of discipline, the father of his men; and the expression of the soldier's artless feeling is full of significance when he jokingly calls his captain, as he is wont to do, the "old un," although he sees older officers giving the law to him.

(*Continued on p. 105.*)

AUSTRIAN METHOD OF GUN-HAULAGE IN SNOW.

(From the *Mittheilungen über Gegenstände des Artillerie-und Genie-Wesens.*)



INTERESTING experiments were made early last year at Stanislau, in Galicia, on transporting batteries of artillery when the ground was covered with a thick blanket of snow. The trials were conducted under the personal supervision of Major Von Meyer, of the Austro-Hungarian Artillery. Although sledges are more likely to be used in Galicia and Russian Poland for the

common country sledges were utilised without undergoing any preliminary alteration. In certain parts of France, notably in Franche-Comté, sledges of similar pattern may be seen, and so easily are they constructed, that they can be put together by the *personnel* of a battery without calling in any skilled labour.

Loading up is effected in a very simple way. The gun-carriage and limber are detached, and each placed upon a sledge.



GUN-CARRIAGE AND GUN PACKED ON SLEDGE.



LIMBER, WITH POLE STRUCK, DISMOUNTED AND PACKED.

transport of guns than in more temperate climates, the fickleness of winter is so proverbial that their employment might become necessary in any European country.

For the experiments in question the ordinary strong sledges for the conveyance of timber were used. These

The Gun-carriage.—A block of wood eight inches thick and about two yards long, meant to sustain the axle, is placed across the sledge. The gun-carriage with its gun is then brought to the rear of the sledge and backed upon it. The wheels are then dismounted and

packed, as shown in the diagram. The axle is kept in position by lashing the gun-carriage to the sledge with ropes. So placed, the gun-carriage with its gun has a perfectly stable position. Two gunners sit on the gun-carriage and the sledge is ready to march.

The Limber.—This is packed in a very similar manner to the gun-carriage. No wooden block is required to sustain the axle. The pole is struck and roped to one of the sabots of the sledge, as shown in the diagram. Three gunners are seated on the limber, and more can be carried on the sledge. Should a less number be accommodated, the space can be utilized for the transport of forage.

When marching down mountainous roads where the

descent is slippery, chains are lashed across the front of the sabots of the sledges—an arrangement which forms a constant brake or drag.

The loading up of the gun-carriage and limber is effected simultaneously. After a little practice, only nine minutes are required to make all ready.

To unpack the sledge and bring a gun into action requires only five minutes.

On ordinary ground, from two to three horses only are required for the haulage of a sledge packed as above described. In ascending mountains the number of extra horses must depend necessarily on the steepness of the gradients.



NAVAL AND MILITARY NOTES AND QUERIES.

DISCIPLINE.—(*Continued from p. 103.*)

THIS peculiarity in German camp-life, which brings the officer in close connection with each of his men, in combination with the belief in the strict performance of duty, has created a feeling of most complete unity in the ranks. Therein consists the Germans' strength. The most complete interdependence between officers and men has arisen from the zealous performance of duties common to both. Every man in the ranks knows by experience that his officer will in no case desert the unit to which he belongs, that the same unit is like a family with the same interests in common, and that it will always hold together in need and peril. Hence springs that confidence which explains the superiority of a disciplined force. The soldier meets the enemy's bullets

with composure, because he is convinced that his comrades have the same feeling, and because he cannot think of leaving them in the lurch. The moral force derived from the feeling of interdependence remains firm when the excitement and confusion of battle render control impossible, and regularity, which is the offspring of law, has ceased to exist. The sentiments of duty and honour rouse at such moments in the heart of each soldier the firm resolve not to be behind his neighbour. During the last wars every single body of troops being thus inspired was ready to attack a superior force of the enemy whenever it appeared expedient to do so for the general good, or whenever a favourable opportunity presented itself.

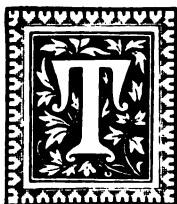
R. O'BRYNE.



THE CONQUEST OF THE PUNJAUB.

CHAPTER I.

THE SUTLEJ CAMPAIGN—MOODKEE.



THE conquest of the Punjaub, extending over the period 1846–49, includes some of the most stirring episodes in the military history of India. From a political point of view, that conquest was of the highest importance; it consolidated our hold over the whole peninsula of Hindostan; it placed our frontiers coterminous with those of Afghanistan; it brought us into direct antagonism with Russia, and it furnished us with a province fertile in the extreme, and peopled with a warlike and hardy race. Long before the First Sikh War, and even when a close alliance existed between the British Government and that of Runjeet Singh, it was foreseen that a struggle must inevitably ensue between the ruler of the Punjaub and ourselves, and that the result of that struggle must be the incorporation of the Punjaub with the British dominions.

Before commencing an account of the military operations which led to the annexation of the Punjaub, a brief account of the Sikh kingdom is necessary. As a people, the Sikhs date from the year 1510, when, under the leadership of Nanuk, their first prophet, they seceded from the Hindoo religion.

There are points of resemblance between this gallant race and Christians of our own school. Nanuk, their prophet, was the son of a carpenter, and he came, not to bring peace into the world, but a sword. He inculcated sobriety, chastity, and bravery on his followers; they were to be Rechabites; the use of the razor was forbidden; tobacco and strong drinks were strictly interdicted, and a Sikh failing in the moment of danger, or a Sikh woman yielding in the moment of temptation, was lost beyond all hope of redemption. For many years the Sikhs had but a poor time amongst the Mahomedan inhabitants of the Punjaub; but little by little their numbers increased, until at the end of the eighteenth century they had become one of the most formidable powers in Northern Hindostan. This was due, in a great measure, to the soldier-like qualities and good statesmanship of their sovereign, Runjeet Singh, the Lion of the Punjaub. Runjeet Singh professed, and it is generally believed he really was actuated by, the most friendly feelings towards the English; but at his death, in 1839, the Punjaub was plunged into

anarchy and rebellion, and it soon became evident that we were within a measurable distance of war with the Sikhs. Various claimants arose to the Sikh throne, and whilst we supported the claims of Khuruk Singh, the elder, a strong party gathered round Shere Singh, a younger son, who, some asserted, was not Runjeet Singh's son at all. Khuruk, however, succeeded to the throne, and on his death, which occurred in 1840, was in turn succeeded by his son, Nao Nihal Singh. Nao Nihal reigned but a few weeks, when a fall from an elephant (an accident in which treachery played an important part) ended his career, and Shere Singh, now supported by the army and by the Rajahs of Cashmere, was nominated to the vacant throne. Shere Singh and his son, Purtab Singh, were both murdered in 1843, when Dhuleep Singh, said to be a posthumous son of the old Maharajah Runjeet, was proclaimed Ruler of the Punjaub. During these troublous times, murder followed murder with startling rapidity; each successive minister, each successive sovereign, bid high for the support of the army, and it was pretty clear that the soldier would, ere long, assume the leading power, and that the anarchy which already threatened the country would assume the most dangerous proportions.

Our Resident at the Court of the Sikhs, Major Broadfoot, whose calm courage had tended not a little to the successful defence of Jelalabad in the first Afghan war, warned the Governor-General to be prepared for war, and Lord Hardinge, stout old soldier that he was, readily answered to the call. Feeling certain that when the finances of the State should be found inadequate to pay the Sikh troops, those troops would at once commence to raid into British territory, the Government of India determined to mass a corps of observation on the banks of the Sutlej, and the Governor-General himself proceeded to the frontier, so that no delay need occur in the commencement of operations whenever they might be deemed necessary.

To enter at any length on a description of the geography of the Punjaub is unnecessary. Every English schoolboy knows it is the land of the five rivers, lying between the Sutlej and the Indus. Then, as now, it included the tract of land to the west of the Indus, up to the foot of the Suliman range. Its wealth was considerable; the lands, watered by its large rivers and

their innumerable tributaries, were abundantly fertile, and its chief cities were considerable centres of commerce ; they were strongly fortified and forbade attack to any army unprovided with a siege-train. Lahore, Mooltan, Umritsur, Phillour, Attock, and Peshawur were all surrounded by lofty walls, immensely thick ; these were flanked by circular towers, and were surmounted by a formidable artillery. The Sikh army was known to be well trained ; many French and Italian officers held high rank under Runjeet Singh ; the men were gallant soldiers, possessed of admirable physical qualities, and our own military authorities were well aware that in embarking on a conflict with the Sikhs we should meet foeman more worthy of our steel than any we had found in India since Ochterlony faced the Goorkhas in the Nepaul hills.

The demands of the Sikh army grew so urgent, and their attitude so perilous to the existence of the Council of Regency which carried on the Government for the infant Maharajah Dhuleep Singh, that the Sirdars determined to turn the thoughts of the troops to objects which might divert their attention from home affairs, and, like Napoleon in earlier days, they determined on making war with the British.

In October 1845 Lord Hardinge had massed his corps of observation* near the Sikh frontier, and when, on the 11th December, news arrived that the Sikhs, without declaring hostilities, had actually crossed the Sutlej, and were threatening Ferozepore, then held by a force under Sir John Littler, our troops were rapidly moved forward from Loodianah and Umballa to meet the Khalsa army, which numbered 50,000 men with 108 guns.

On the 18th, shortly after mid-day, the British troops under the personal command of Sir Hugh Gough, consisting of a division under Sir Harry Smith, two brigades under Sir John McCaskell and Major-General W. R. Gilbert, amounting to twelve battalions, with seven batteries of artillery, and five regiments of cavalry, reached Moodkee *en route* to Ferozepore. As their gallant commander so clearly puts it in his despatch : "All this is soon related, but most harassing have been the marches of the troops in completing this concentration. When their march had been further prolonged to this place they had moved over a distance of upwards of 150 miles in six days, along roads of heavy sand, their perpetual labours allowing them scarcely time to cook their food, even when they received it, and hardly an hour for repose, before they were called upon for fresh exertions."

This was indubitably the case on the 18th December

* Strength :—17 batteries of Artillery, 2 regiments British Cavalry, 3 regiments Native Cavalry, 2 regiments Native Irregulars, 5 regiments British Infantry, 13 regiments Native Infantry, 6 companies Native Sappers.

1845, when, shortly after noon, the British troops arrived at Moodkee, and took up their position in front of the village.

"The troops were in a state of great exhaustion, principally from the want of water, which was not procurable on the road ; when about 3 p.m. information was received that the Sikh army was advancing, and the troops had scarcely time to get under arms and move to their positions when the fact was ascertained."

Gough, the Commander-in-Chief of the Indian army, and Sir Henry Hardinge, Governor-General of India,



VISCOUNT GOUGH.

were both present with the troops, and amongst the Divisional Commanders were many who had served in the Peninsular, and in the more recent campaigns in India. Talent there was in plenty, talent of that kind which enables its possessor to grasp quickly and clearly the outlook of a military situation, and to make those dispositions under fire which may best counteract the enemy's movements. If confidence in the Commanders is an element of success in military operations, the issue of the Sutley campaign can never have been in doubt. Gough and Hardinge, Sale and Dick, Henry Smith and McCaskell were all officers who, having won their spurs as regimental officers in the Peninsula under Wellington, had recently stamped their names on our military history by their able conduct when in subordinate command.

There had been no opportunity for the display of any high strategical skill in the plan of the campaign. Our troops watched the Sikh frontier at Loodhianah and Ferozepore, with a corps of reserve at Umballa. This corps was gradually moved up to a central position at Bussian, whence it could afford aid to either threatened

point; and when the Sikhs crossed the Sutlej near Ferozepore, Gough massed his troops in rear of that place, and prepared to give battle to the enemy.

Tactical movements also were few and far between. Gough's tactics were of the old school, he had a firmer faith in the bayonet than in the fire-lock, and up to the last was averse to the modern system of utilizing artillery to pave the way for an infantry attack.

At Moodkee, on learning of the immediate vicinity of the Sikhs, Gough sent forward his cavalry and horse-artillery to engage the enemy, whilst the infantry advanced in echelon of lines. The enemy, screening their infantry and guns behind the undulations of ground, subjected our force to a heavy cannonade during its advance; but this was vigorously replied to by the horse artillery, whilst the cavalry, under Brigadiers White, Gough, and Martin, made a wide detour round the flanks of the Sikhs, thus enabling our infantry battalions to deploy under cover of the artillery-fire. Night was fast approaching as the infantry attack was delivered, but the "roll of fire from this powerful arm soon convinced the Sikh army that they had met with a foe they had little expected, and their whole force was driven from position after position with great slaughter, and the loss of seventeen pieces of artillery, some of them of heavy calibre; our infantry using that never-failing weapon, the bayonet, wherever they stood. Night only saved the Sikhs from worse disaster; for the stout conflict was maintained during an hour and a half of dim starlight, amidst a cloud of dust from the sandy plain which yet more obscured every object."

Gough was too weak in cavalry to venture on a pursuit even in the morning; thus, instead of bringing the campaign to a conclusion by one successful fight, as the more sanguine had ventured to hope, Moodkee proved to be but the opening scene of combats as severe as any which we have yet waged in India.

Our losses in this short engagement were terribly severe; many names figured amongst the killed on whom bright hopes were built, whilst in the roll of wounded were others who were destined in after years to win still higher renown. Fifteen officers (British and Native), and 200 non-commissioned officers and men were killed; 48 officers and 509 men were wounded.

The casualties amongst the Head-quarter Staff showed how hotly it had been engaged, and also showed that, despite his age, Hugh Gough had lost none of the daring which had characterized him in the Peninsula.

The following is a list of the officers killed and wounded at Moodkee:—

Staff.—Killed—Major-Generals Sir R. Sale, G.C.B. and Sir J. McGaskill, K.C.B.; Majors W. R. Herries, A.D.C. to the Governor-General, and G. Broadfoot, Political Agent; Captain J. Munro, A.D.C.

Wounded—Brigadiers W. Mactier, C.B., S. Bolton, C.B., H. M. Wheeler, C.B.; Majors Pat Grant, Daly, and R. Codrington, D.Q.M.G.; Captains G. E. Hillier, Herbert Edwardes, A.D.C.'s; L. Harrington, Brigade-Major; and E. Lugard, D.A.A.G.; and Lieutenant Nicolls, A.D.C.

3rd Light Dragoons.—Killed—Captain Newton, Cornet E. Worley.

Wounded—Lieutenant S. Fisher, E. G. Swinton, and E. B. Cureton.

9th Foot.—Killed—Assistant-Surgeon A. Graydon.

Wounded—Ensign A. Hanham; and Assistant-Surgeon R. Gahan.

31st Foot.—Killed—Lieutenants H. W. Hart, and J. Brenchley.

Wounded—Lieut.-Colonel J. Byrne; Captains W. Willis, T. Bulkeley, and G. D. Young; Lieutenant J. Pollard.

50th Foot.—Wounded—Captains H. Needham; Lieutenants W. S. Carter, A. Bishop, R. de Montmorency, and Young.

80th Foot.—Wounded—Lieut.-Colonel T. Bunbury.

Bengal Artillery.—Killed—Captain F. Dashwood; Lieutenant R. Pollock.

Wounded—Lieutenants Cox, C. A. Wheelright, C. Bowie.

5th Light Cavalry.—Killed—

Wounded—Major Alexander; and Lieutenant R. Christie.

Body Guard—Killed—Lieutenant W. Fisher.

Wounded—Lieutenants C. Dawkins, and G. R. Taylor.

2nd Native Infantry—Wounded—Captains T. W. Bolton, and J. Gifford; and Ensign Warden.

42nd Native Infantry.—Killed—Lieutenant J. Spence.

Wounded—Lieutenant Van Holt.

47th Native Infantry.—Wounded—Lieutenant Poyson.

Despite their very heavy losses on the 18th December at Moodkee, losses estimated at 8,000 men killed and wounded, the Sikhs showed no signs of avoiding further hostilities. Indeed, on the 19th, information was given Gough which led him to anticipate an attack, and our troops, all worn out though they were by the exertion of their march and of the fight of the preceding day, were drawn up under arms for some hours in expectation of the Sikh advance. On the 19th, Gough was reinforced by the 29th Foot and 1st Bengal European Regiment (since better known as the 1st Bengal Fusiliers), as well as by Sir John Littler, with the bulk of the troops from Ferozepore.

And now occurred one of those instances of self-abnegation which, to the honour of the British officer, are far from rare in our military annals. Sir Henry Hardinge, the Governor-General, sinking his official

position and taking on him only his military rank, placed his services at the disposal of Sir Hugh Gough, and was appointed to act as second in command throughout the ensuing operations.

In Sir Robert Sale the Commander-in-Chief had lost one of his most valued assistants, and the British army one of its brightest ornaments. He was one of that gallant band—of whom not a few were fighting on the banks of the Sutlej—who, unaided by Courtly interest or by bankers' balances, had fought his way up to fame. The son of an Indian soldier, all Sale's fighting had been in the East, though he himself held a commission in what was then termed the Queen's Army. At the early age of seventeen he went through the Campaign of 1799, under Lord Harris, and at the storming of Seringapatam was mentioned in despatches, a rarer honour then than now, and one still more rarely bestowed on lads in their teens. He was personally engaged in all the operations which led to the consolidation of our power in Lower India, and was with Abercromby at the capture of the Mauritius. On the reduction of the army after Waterloo, Sale was placed on half-pay, but in 1821 was brought into the 13th Foot, and with them proceeded to Burmah. It is with the 13th that Sale's name will be imperishably connected, for it is to his training and power of command that the Somersetshire Light Infantry owe their mural crown, and their sergeants the proud distinction of wearing their sashes over the left shoulder. At the capture of Rangoon and the storming of Kemmendine, Sale at once came to the front, and, though but a major in the army, was entrusted with the command of a brigade at the reduction of Bassein. In Burmah, Sale was twice badly wounded, and at the conclusion of the war he was given his brevet lieutenant-colonelcy and C.B. On the invasion of Afghanistan, in 1839, Sale was selected for the command of the 1st Bengal Brigade, and to him were entrusted the arrangements for the storming of Ghuznee. For this service he was given the local rank of Major-General in Afghanistan and made a K.C.B. In the subsequent operations Sale was one of the few who showed that military spirit which stamps the British officer, but which, alas! was so sadly conspicuous by its absence amongst our leaders in the first Afghan war. He subdued the Kohistanee country, he forced the Koord Cabul Pass, and, in spite of Elphinstone's orders to evacuate, he held on to Jellalabad until Pollock came to his relief. The defence of Jellalabad is the brightest episode in a war which has cast a grievous shadow over the lustre of British arms. Sale and the brave 13th were charged with the task of releasing the English captives in the hands of Akbar Khan; this task was performed with the skill and daring so conspicuously manifest at the defence of Jellalabad. At the close of the war Sir Robert was raised to the dignity of a G.C.B., and the Afghan Government pre-

sented him with the 1st Class of the Dooranee Empire. The Colonelcy of the 13th Light Infantry was also bestowed upon him (so far as I can ascertain, no other officer below the rank of Major-General has been so distinguished), and he was subsequently made Quarter-master-General in India. At the outbreak of hostilities with the Sikhs, Colonel Sir Harry Smith, K.C.B., Ad-



SIR HARRY SMITH.

jutant-General of the Army, was appointed to command a division, and Sale remained senior Staff officer with Sir Hugh Gough. His death, at the very outset of the campaign, was a grievous loss to the councils of the Governor-General, but it was an honourable close to a career which deserves a more permanent record in our military annals than has yet been vouchsafed to it.

The 13th, proud of their gallant Colonel, issued the following Regimental Order on learning the sad news of Sir Robert Sale's death:—

“ Walmer Barracks, 25th Feb. 1846.

“ Regimental Order by Lieut.-Colonel Squire.

“ It is with feelings of the deepest regret that Lieut.-Colonel Squire announces to the Regiment the melancholy news just received of the fall of their distinguished Colonel, Sir Robert Sale, in action with the Sikhs.

“ It would be superfluous to comment on the deeds of one so renowned in the history of our country, but it will ever be a source of pride to every soldier in the 13th to remember that Sir Robert Sale led the regiment in many a hard-fought field, and that, under his guidance and gallant leadership, it won those badges and honours which now so pre-eminently distinguish Prince Albert's Light Infantry.

"It must be a consolation to his sorrowing comrades of the Regiment that he fell in so glorious a manner, and our regret must be double that it was not our good fortune to have been in our place near him."

"To the old soldiers of the Regiment, Lieut.-Colonel Squire feels certain he need say nothing to remind them of the heavy loss the 13th has sustained, and let it be their pride to relate to the young soldiers the many glories acquired by the Regiment under his noble leading and of the kind father they ever met with in him."

"To mark our grief for our late Colonel, the Commanding Officer directs that the officers will appear in mourning from this date until the 6th of April next."

In Major Broadfoot, who had acted as British Resident at the Sikh Court, and who was peculiarly conversant with the Punjab and Afghanistan, Sir Henry Hardinge lost a tried assistant. His place, however, was worthily filled by Major, afterwards Sir Henry, Lawrence. Broadfoot had been Garrison Engineer at Jellalabad in 1841, under Sale. Strange fatality that, after escaping the dangers of the Afghan campaign, both should fall in the first engagement on the Sutlej.

Sir John McCaskell, who also met a soldier's death on the field of Moodkee, like Sale and Smith, held the local rank of Major-General in India. He was senior Lieutenant-Colonel of the 9th Foot, a regiment he had commanded for many years. He had fought in its ranks in the Peninsula, and shared its dangers and privations in Afghanistan, where he had earned considerable reputation as a brigade commander and the Knighthood of the Bath.

CHAPTER II.

THE SUTLEJ CAMPAIGN.—BATTLE OF FEROZESHAH, 21ST DECEMBER 1845.

ON the 21st December, feeling himself strong enough to assume the offensive, Gough determined to move against the Sikhs, who, he was aware, had been busily entrenching themselves since their reverse on the 18th. These entrenchments included within their area the village of Ferozeshah, and had a frontage of about a mile, with a depth of close on half that distance. The longer front faced Ferozepore, the shorter faced the Sutlej and Moodkee. Gough, all for frontal attacks, moved against the longer face; the three divisions of General Gilbert, Brigadier Wallace, who had succeeded to Sir John McCaskell's command, and General Sir John Littler, occupying the first lines, with the greater portion of the artillery in the centre. Sir Harry Smith's division being in reserve. To the Governor-General, Sir Henry Hardinge, was entrusted the command of the left wing; Gough, himself, taking the right.

The ground in front of the Sikh position was covered with dense jungle, rendering regularity of movement difficult. On arriving within range of the entrenchments, our troops were exposed to a very heavy cannonade from the powerful artillery (numbering over 100 guns) that the Sikhs had placed behind their earthworks. Our guns, of much lighter calibre, were unable to silence the well-served pieces of the enemy, and our infantry, now advanced to close range, suffered very severely from their fire. The situation was becoming critical. The Sikhs, elated at the check to which we were subjected, redoubled their fire. Our men, like greyhounds in the leash, eager to dash forward and finish the affair, were yet held in hand by their superiors, who, having graduated in the stern school of the Peninsula, knew well the danger before them. Gough and Hardinge were not men to hang back when dash could carry the day. All soldiers know the story of Hardinge's intrepidity at Albuera, and all know that Gough won his Brevet, and the 87th their Eagle, at Barossa. A hurried consultation took place, and as it was reported that artillery ammunition was running short, Gough gave the order to advance. The infantry then dashed forward, cleared the hastily-thrown-up entrenchments, and with matchless valour threw themselves on the enemy's guns. Nought could withstand their charge; the Sikhs, gallant as they ever have proved themselves to be, recoiled, and for an instant it seemed as if the day was already won. But the well-known war-cry of "*Wah! wah! Gooroo jee ke futteh!*" rent the air, and rallying round their leaders, the Sikh infantry nobly endeavoured to retake the guns from which the Khalsa troops had been driven.

In spite of the heroic efforts of our men, a portion only of the position was carried, and the majority of the British army, with the Commander-in-Chief and the Governor-General of India in their midst, bivouacked in front of the Sikh entrenchments; some portion, indeed, were in our hands, but the greater part was yet unwon. Throughout that long winter night incessant firing was carried on; indeed, at one time, by Sir Henry Hardinge's personal orders, the 80th, and 1st Bengal European Regiment, were roused from their bivouac to carry a heavy gun with which the Sikhs were playing on our worn-out men. At dawn the fight was renewed, and for a time it seemed as if the day was going hard for us. A masked battery played with consummate accuracy on our massed guns, dismounting several, and blowing up many tumbrils. At last, calling on the men for one final effort, and bringing up Smith's division to reinforce the fighting line, the British army advanced. Was ever seen such an advance in the history of the British in India? Sir Hugh Gough, the Commander-in-Chief, leading the right wing; Sir Henry Hardinge, the Governor-General, in front of the left! No panics or

hesitation now; with one wild cheer the men dashed forward, quicker and quicker grew the pace of the gallant leaders, quicker and quicker the steps of those who pressed on behind. The outer wall of entrenchments, piled high with dead and dying, lay behind. the village of Ferozeshah in front; soon that point, too, is reached, and then Gough, changing front to his left on the centre, swept the entrenchment clear of the enemy, and halted on its eastern side. Not yet was the battle ended. A Sikh fights on, when all save honour is lost. Twice did the Khalsa forces make determined efforts to retake the lost position; twice were they repulsed by our cavalry and infantry alone. Our guns were silent—every round had been expended during the engagement.

The losses on both sides were heavy. With such brave opponents, what else was to be expected? Within four days we had driven 60,000 Sikhs from two carefully prepared positions, and we had captured 108 guns!

Fifty-four British and native officers, and 630 non-commissioned officers and men were killed, whilst 96 officers and 1,633 men were wounded on that bloody field of Ferozeshah.

List of Officers killed.

Brigadiers C. C. Taylor and N. Wallace.

Major A. W. Fitzroy Somerset, Military Secretary to the Governor-General.

Captains W. Hore, Deputy Secretary to the Government; J. Lucas, and J. H. Burnett, Brigade Majors.

Artillery.—Captain E. Todd, and Lieutenant P. C. Lambert.

3rd Light Dragoons.—Captain J. E. Codd, and Cornets H. Ellis and Bruce.

9th Foot.—Lieut.-Col. A. B. Taylor, Captains Dunne and Field.

29th Foot.—Captain G. Molle, and Lieutenant A. Simmons.

81st Foot.—Lieutenant J. L. Pollard, and Lieutenant and Adjutant W. Bernard.

62nd.—Captains G. H. Clarke, H. Wells; Lieutenants T. K. Scott, W. McNair, R. Gubbins, M. Kelly; Lieutenant and Adjutant J. Sims.

80th.—Captains A. Best, R. Scheberras, R. B. Warren, S. Fraser, and G. Bythesea.

1st European Regiment.—Captain J. Box, Ensign P. Moxon.

2nd Native Infantry.—Ensign G. Armstrong.

16th „ Major L. N. Hull.

24th „ Major Griffin.

26th „ Lieutenant G. Croly.

42nd „ Lieutenant J. G. Wollen.

73rd „ Captain R. M. Hunter.

List of Officers Wounded.

General Staff.—Brigadier M. White, C.B.

Lieut.-Colonels.—R. B. Wood, J. Reid, and D. Harriott.

Captains.—C. Havelock, E. Lugard, J. H. Burnett, C. Burnett, and J. F. Egerton.

Lieutenants.—F. P. Haines, A. J. Galloway, and E. A. Holdich.

Artillery.—Captains W. K. Warner and M. MacKenzie; Lieutenants R. M. Paton and E. Atlay.

Engineers.—Captain R. C. Napier.

3rd Light Dragoons.—Major C. W. M. Balden; Lieutenants Morgan and Burton; Cornets Orme, White, and Rathwell.

9th Foot.—Captain A. Barlow; Lieutenants A. Taylor, J. Vigors, F. Sieveright, W. G. Cassidy, and Ensign W. Forster.

29th Foot.—Major Congreve, and Captain Stepney.

31st Foot.—Major Baldwin; Lieutenants Plaskett and Pilkington; Ensigns Paul and Hutton.



SIR W. PARKER.

50th Foot.—Captain Knowles; Lieutenants Chambers and Barnes; Lieutenant and Adjutant E. C. Mullen, and Ensign White.

62nd Foot.—Major Shortt; Captains Graves, Sibley, and Darrock; Lieutenants Gregorson, Ingall, and Craig; Ensigns Roberts and Hewett.

80th Foot.—Major Lockhart; Lieutenant Freeman.

2nd Native Infantry.—Captain Bolton, and Ensign Hodson.

12th Native Infantry.—Lieut.-Colonel Bruce; Captain Holmes; Lieutenant Tulloch; Ensign Ewart.

14th Native Infantry.—Captains Struthers and Walsh; Lieutenants A. O. Wood, J. Lukin, and G. Weld.

16th Native Infantry.—Ensign J. O'Bryan.

24th Native Infantry.—Ensign E. A. Grubb.

26th Native Infantry.—Lieutenant A. C. Eatwell.

42nd Native Infantry.—Lieutenant and Adjutant C. W. Ford; Ensign J. Wardlaw.

45th Native Infantry.—Lieutenant and Adjutant C. V. Hamilton.

48th Native Infantry.—Lieutenants E. W. Litchford and R. C. Taylor.

In this report on what occurred under his own immediate command, Sir Henry Hardinge writes :—

"The line advanced with great steadiness, notwithstanding the nature of the ground intersected with jungle. When the troops had cleared these impediments, and had opened out into the plain, they continued to press on without a check under a very heavy fire of grape and musketry from the enemy's batteries, and, having borne down all opposition, entered the enemy's camp and captured the guns in their front.

"This portion of the camp was soon on fire, compelling the troops to desist from their attack of the remainder; and as it now was dark, the troops formed on the ground nearly on a line with the burning camp. From that period till the morning these brave men were exposed to an incessant fire from the enemy's guns, the darkness of the night being illuminated by the explosion of mines, tumbrils, and shells.

"I have personally reported my admiration of the conduct of Her Majesty's 80th Regiment and the 1st European Light Infantry, in obeying with alacrity the order I gave about midnight to stand to their arms and charge a battery which bore destructively on our ranks. The guns were spiked, the enemy driven away with loss, and this part of our line left undisturbed for the remainder of the night."

Amongst those whose conduct was prominently mentioned in despatches was Prince Waldemar of Prussia, a cousin of the present Emperor of Germany, who was travelling in India with his suite. This young officer, a colonel of dragoons of the Prussian Guard, begged leave to accompany the Governor-General throughout the campaign. The Prince's surgeon, Dr. Hoffmeister, was unfortunately killed at Ferozeshah.

Lord Hardinge's private letters are of equal interest :—"The night of the 21st was the most extraordinary of my life. I bivouacked with the men without food or covering, and our nights are bitter cold. A burning camp in our front, our brave fellows lying down under a heavy cannonade, which continued during the whole night, mixed with the wild cries of the Sikhs, our English hurrah, the tramp of men, and the groans of the dying. In this state, with a handful who had carried the batteries the night before, I remained till morning, taking very short intervals of rest by lying down with various regiments in succession, to ascertain their temper and revive their spirits. I found myself with my old friends of the 29th, 31st, 50th, and 9th, all in

good heart. During the night I occasionally called on our brave English soldiers to punish the Sikhs when they came too close and were impudent, and when morning broke we went at in true English style. Gough was on the right. I placed myself and dear little Arthur by my side in the centre, about thirty yards in front of the men, to prevent them firing, and we drove the enemy without a halt from one extremity of the camp to the other, capturing thirty or forty guns as we went along, which fired at twenty paces from us and were served obstinately. The men drew up in an excellent line, and cheered Gough and myself as we rode up the line, the regimental colours lowering to me as on parade. The mournful part is the heavy loss I have sustained in my officers. I have had ten aides-de-



HENRY. VISCOUNT HARDINGE.

camp *hors de combat*, five killed, and five wounded. The fire of grape was very heavy from 100 pieces of cannon; the Sikh army drilled by French officers, and the men the most warlike in India."

CHAPTER III.

THE SUTLEJ CAMPAIGN.—ALIWAL AND SOBRAON.

AFTER the failure of these final attempts on the 22nd December, the Sikh army recrossed the Sutlej, and took up a strong position on the right bank of the river opposite the fords of Sobraon, their front on the left bank being covered by a powerfully constructed *tête de pont*, armed with 100 guns. The British general, not caring to lose touch of the enemy, also broke up his camp, and disposed his troops with a view of prevent-

ing any further incursion of Sikhs, Sir Hugh Gough, with the head-quarters, being at Hurruff, whilst Sir Harry Smith's division was posted at Malluwal. From day to day desultory skirmishes took place between the opposing forces. Our inactivity doubtless inspired the enemy with fresh courage. This inactivity was due to the necessity of obtaining reinforcements, and in filling up the deficiency in the artillery ammunition-trains, which were practically exhausted at Ferozeshah. Profiting by this circumstance, the Sikhs, endowed with superior mobility, despatched a force up the right bank of the Sutlej, and crossing that river near Phillour, not only threatened the rich city of Loodianah, but also struck at Gough's communications with Umballah. Loodianah was held by a brigade of native troops under Brigadier Godby, and the 53rd Foot was on the march up country to support him; the Shekawattee brigade, too, lying at Bussian, was near enough to afford Godby aid, should he require it; but the aspect of affairs in this direction became so threatening, that the Commander-in-Chief instructed Sir Harry Smith, with his own division and Cureton's Cavalry Brigade, to move rapidly on Loodianah and assure the safety of the road between the Sutlej and Umballah.

On the 16th January Sir Harry broke camp at Malluwal, and on the following day captured the fort of Dhurmkote, with its stores of grain. Pushing on, he effected his junction with Godby on the 21st, but not without having been seriously harassed by the enemy, who, sweeping round his flanks, cut off a portion of his train. On the 22nd, the enemy having evacuated their entrenched position at Buddiwal, that too was occupied by Sir Harry Smith, who now feeling himself strong enough to assume the offensive, determined on attacking the Sikh camp in the vicinity of Aliwal, and driving them across the Sutlej.

Sir Harry Smith's force was now composed as follows:—

Cavalry Brigade, Brigadier Cureton, C.B., 16th Lancers, Body Guard, 3rd and 4th Regiments Light Cavalry.

1st Infantry Brigade, Brigadier Hicks, 31st Foot, 24th and 97th Native Infantry.

2nd Infantry Brigade, Brigadier Wheeler, 50th Foot, 48th Native Infantry, and Sirmoor Goorkhas.

3rd Infantry Brigade, Brigadier Wilson, 53rd Foot, 30th Native Infantry.

4th Infantry Brigade, Brigadier Godby, 36th Native Infantry, Nusseree and Shekawattee Regiments.

On the 28th January, Smith moved forward to the attack, his front covered by cavalry, his artillery massed between his 1st and 2nd Brigades. Godby's brigade, on the extreme right, with the 4th Irregular Cavalry covering the interval between Godby and a nullah which flowed into the Sutlej in the vicinity of the Sikh camp.

The cavalry had been formed in two brigades, under Brigadiers MacDowell, C.B., and Stedman; and when, on nearing the enemy's position at Aliwal, our troops began to feel the effects of the Sikh fire, the cavalry moved off to the right and left, the infantry deployed into line, Godby being thrown back in support on the right, the Shekawattees on the left; and the advance was continued as if on parade.

"After deployment," writes Sir Harry, "I observed the enemy's left to outflank me. I therefore broke into open column, and took ground to my right. When I had gained sufficient ground, the troops wheeled into line. There was no dust—the sun shone brightly. These manœuvres were performed with the celerity and precision of the most correct field day. The glistening of the bayonets and swords of the order of battle was most imposing."



MAJOR-GEN. SIR ROBT. W. SALE.

Alas! the pomp and ceremony of war has departed! No more shall we see troops advancing, with bayonets fixed and colours fluttering in the breeze, to attack strongly-manned entrenchments. No more shall it be possible for works to be carried with the bayonet. The old school who so strongly impressed on their men, "Mind, not a shot is to be fired; trust to the bayonet, my men," have long since passed away; but the new men that have arisen have shown themselves worthy descendants of thier gallant sires. The same dashing gallantry, the same dogged heroism, the same cheerfulness under difficulties, the same staunchness in disaster. The British soldier of to-day, in the stubborn fights round Cabul, in stemming the deadly rush at Ahmed Khel and at Tofrek, in the trying march from Gubat to

Korti, proved they were no whit inferior to those who fought in the Peninsula and in the Punjab. The value of the bayonet is gone; but that simple faith in the valour of the British soldier, which was the keynote of the triumphs won by Wellington, by Graham, by Hill and Gough, by Harry Smith and Colin Campbell, is still extant amongst us. It is loudly struck in the despatches of Wolseley and of Roberts; it sustained McNeill in that *mauvaise quart d'heure* near Suakim; it cheered up Herbert Stewart in his dying moments in the desert; it led poor Burnaby to his untimely end. It prompted Harry Smith, on the 28th day of January 1846. Though his force was one-fourth that of the enemy; though his cavalry were outnumbered in far greater a proportion; though his artillery was practically powerless against that of the enemy, he never wavered for one moment. With the coolness of a veteran he simply halted his line for a few moments whilst he (under a heavy fire from the enemy's guns) quietly cantered forward, and then, grasping the true situation, he ordered up Godby's and Hick's brigades, and carried the village of Aliwal with a rush. As the Sikhs poured out in the rear of the village, Cureton, sweeping round with the right brigade of cavalry, inflicted terrible loss on the fugitives. In the meantime, the left of the line, under Brigadier Wheeler, was pressing the enemy back step by step. A final most stubborn stand was made at Boondree, but here, too, the Sepoy vied with his British comrade as to who should be the foremost in the race for glory. The 80th Native Infantry, closely followed by the 53rd, carried Boondree at the point of the bayonet; and now the whole force advanced "with the most perfect order to the common focus—the passage of the river." Ousted from all their positions, a panic seems to have struck the Sikhs, who, abandoning all formation, dashed headlong to the river, crowding the bridge and the boats and the fords in wild disorganized masses. Our Horse Artillery completed the discomfiture by playing upon the enemy as they crossed the stream. The success was complete; every gun the enemy possessed was accounted for; fifty-two were captured, eleven were lost in the river during the headlong flight of the enemy, whilst thirty small wall-pieces were found in the village of Boondree.

Considering the results of the action, our loss was by no means severe:—4 officers and 151 men killed, 25 officers and 418 men wounded.

List of Officers Killed.

16th Lancers.—Lieutenant H. Swetenham, and Cornet G. B. Williams.

4th Irregular Cavalry.—Lieutenant and Adjutant Smalpage.

50th Foot.—Lieutenant Grimes.

List of Officers Wounded.

Staff.—Captain P. O'Hanlon, Brigade-Major.

16th Lancers.—Major T. R. Smythe; Captains E. Bere, and L. Tyler; Lieutenants Orme, Pattle and Morris.

1st Light Cavalry.—Cornets Beatson and Farquhar.

31st Foot.—Lieutenant Atty.

50th Foot.—Captains Knowles and Milton, Lieutenants Frampton, Bellars, Elgee, White, Vernet, Purcell, and Ensign Farmar.

24th N.I.—Lieutenant Scott.

36th N.I.—Ensign Bagshaw.

48th N. I.—Captains Troup and Palmer; Lieutenant Wall; Ensign Marshall.

Sir Harry Smith, the victor of Aliwal, received his early training in that distinguished corps the Rifle Brigade. Joining the old 95th in 1805, Smith was present at the storming of Monte Video; then, re-crossing the Atlantic, he shared the honour of Lord Cathcart's expedition to Copenhagen, and then, still with the 95th, he served in the Peninsula. He did not long remain a regimental officer. The little affair at Obidos and the gallant fight at Vimiera brought the young officer to the front, and he speedily obtained a staff appointment in the Light Division. Missing Talavera, he was present at Busaco, and followed the fortunes of Sir John Colborne, until at Toulouse the army of the Peninsula ceased to exist. At the close of the campaign in Spain, Smith once more crossed the Atlantic, and for his distinguished conduct at the capture of Washington was selected to bring home despatches. After a few short weeks he was again in the field, and at the engagement of New Orleans, where he was acting as Military Secretary to the Commander-in-Chief, the gallant Pakenham died in his arms. Smith was again selected to be the bearer of despatches, and so was fortunate enough to be in England at the outset of the Waterloo campaign, in which he served as Assistant Quartermaster-General to Sir John Lambert. He was Brigade-Major to the Light Division in the Peninsula, Assistant Adjutant-General in the American campaign, in the Quartermaster-General's Department at Waterloo, Deputy Adjutant-General at Maharajpore, and finally was selected for the command of a division in the Sutlej campaign. We shall subsequently find him commanding the troops in the Cape of Good Hope, in which colony his name is perpetuated in the little town of Harrismith in Natal.

The effects of the victory were great, the results of the partial success at Ferozeshah—partial inasmuch as Sir Hugh Gough was unable to reap the benefits of the action by a vigorous pursuit—were, I may say, entirely effaced, and the whole country on the left bank of the Sutlej being now clear of the enemy, submitted to the British Government. Satisfied in his own mind of the safety of his line of communications between the Sutlej and Umballa, Gough now directed Sir Harry Smith to rejoin head-quarters, and at once conceived measures for

carrying the enemy's position at Sobraon. On the 8th of February the victorious division of Aliwal marched into the Commander-in-Chief's camp, and on the same day the reserve ammunition for the field artillery and a portion of the siege-train also arrived. Gough was now strong enough to try conclusions with the Khalsa forces, and on the 10th the enemy's entrenched position was carried by storm, and our troops thrown across the Sutlej.

The Sikhs occupied a strongly-entrenched position, semi-circular in form, flanked at close intervals by powerful bastions, the whole giving cover to some 30,000 well-trained troops, supported by seventy guns of heavy calibre. In rear of the centre of the entrenchment lay the bridge of boats, affording communication with the Punjab proper. So long as a single Sikh soldier remained on the left bank of the Sutlej, the peace of India could not be assured, and not until we had substantial guarantees that the Sikh army should be held in check, and prevented from carrying into effect the machinations of those who desired to see the Khalsa Raj and the British Government embroiled, was it possible for the Governor-General to suspend operations. Even now, with the terrible losses they had sustained in men and material at Moodkee, Ferozeshah, and Aliwal, the Sikhs were defiant as ever, and it was evident that the ensuing action would be as stubbornly contested as its predecessors.

Our troops, drawn up in three divisions, moved forward to the attack ; on the right was Sir Harry Smith's division, his right thrown forward in two lines ; the 31st Foot and 47th N. I. under Brigadier Hicks leading, the 50th Foot and 42nd N. I. under Brigadier Wheeler in support, on the right of Smith ; moving between him and the river was Turton's troop of Horse Artillery ; on his left connecting him with Sir Walter Gilbert's division was the Nusseree battalions. Gilbert's division was deployed in one line ; his right brigade consisting of the 29th Foot, 41st and 68th N. I., his left of the 1st Europeans, 16th N. I., and Sirmoor Goorkhas, whilst in the centre moved a field battery ; further to the left were the 62nd Foot, the 9th Foot, and the 26th N. I., whilst between these brigades and the Goorkhas were massed twenty-five heavy guns. On the extreme left of the line with his left thrown well forward, stood Sir Robert Dick, his division in two lines ; his leading brigade under Stacey being formed of the 10th Foot, 48th and 59th N. I. and 53rd Foot, in support being the 80th Foot, 35th and 63rd N. I. ; on either flank moved a battery of Artillery.

In support of Gilbert moved the 9th Lancers and 2nd Irregulars, in rear of Dick the 3rd Light Dragoons, 4th and 5th Light, and 8th and 9th Irregular Cavalry.

The action commenced by a general bombardment of the Sikh entrenchments by our heavy guns ; to this the

enemy replied with vigour and accuracy. At nine, thinking his fire had produced sufficient effect, the Commander-in-Chief ordered Dick's division to advance, which it did with the utmost steadiness, and in line, halting to correct distances when necessary. The artillery batteries under Horsford, Fordyce, and Lane, attached to Dick, took up successive positions at the gallop until they arrived within about 300 yards of the enemy's position, when the fire became so hot, and the losses so severe, that a momentary check occurred. Then Colonels Franks and Philips, dashing to the front, called on the 10th and 53rd to follow them ; the hesitation was over, and with a rush the left of the entrenchments were carried. The two native regiments of this brigade, the 48th and 59th, were no whit behind their British comrades in the assault.

In the meanwhile the other divisions pressed home their attack ; and the cavalry, passing round the en-



SIR J. LITTLER.

trenchments, drove the Sikhs into the turbid waters of the Sutlej ; but the Sikhs did not abandon their carefully fortified position without a desperate struggle ; foot by foot they contested their way to the bridge, which early in the day was thronged with camp followers and other impedimenta. At last British pluck and Sepoy valour won the day, and by 11 p.m. Sobraon was won. Sixty-seven guns, 200 camel swivels, and an immense amount of ammunition fell into our hands.

Gough, whilst loud in his praises of the regular regiments of the Indian army, bestows high praise on the Goorkhas, whose sterling qualities have since made them familiar to all Englishmen.

" Soldiers of small stature but indomitable spirit, they vied in ardent courage in the charge with the

Grenadiers of our own nation ; and armed with the short weapon of their mountains, were a terror to the Sikhs throughout this great combat."

Severe as were our own losses, those of the enemy were appalling ; close on 10,000 Sikhs having been either killed in the engagement or drowned in the pursuit. Amongst the killed were Generals Gholab Singh, Heera Singh, Koopa Singh, Kishen Singh, and Sham Singh Allaree Wallah, a noted chieftain, as well as the Mahomedan Generals Mobarak Ali, Elahi Bux, and Shah Newaz Khan, Rajah of Kussore.

Our own casualties were 16 officers (British and Native) and 301 N.C.O.'s and men killed, 140 officers and 1,913 men wounded.

List of Officers killed at Sobraon.

Staff.—Major-General Sir R. H. Dick, K.C.B., K.H. ; Brigadier C. C. Taylor, C.B. ; Lieutenant R. Hay, brigade major ; and J. S. Rawson, D.A.Q.M.G.

Artillery.—Lieutenant H. T. Y. Faithfull.

10th Foot.—Lieutenant W. Y. Beale.

50th Foot.—Lieutenant C. R. Grimes.

53rd Foot.—Captain C. E. Warren.

62nd Foot.—Lieutenant W. T. Bartley.

1st Europeans.—Lieutenants Shuttleworth and Davidson, and Ensign Hamilton.

38rd N. I.—Lieutenant W. D. Playfair.

41st N. I. Ensign Scatcherd.

Sirmoor Battalion.—Captain T. Fisher.

List of Officers Wounded.

Staff.—Major-General W. R. Gilbert ; Brigadiers N. Penny and MacLaren, C.B. ; Colonel J. B. Gough, C.B., M. Barr, Captain J. Garvoch, Lieutenants Gilbert and Jones.

Artillery.—Major C. Grant.

Engineers.—Captain Abercrombie, Lieutenants J. Becher and Hebert.

3rd Light Dragoons.—Lieutenants Hawkes and White, Cornet Kauntze, and Quartermaster Crabtree.

9th Foot.—Lieutenant R. Daunt.

10th Foot.—Lieutenants Evans and Lindham.

29th Foot.—Captains Stepney, Young, and Murchison ; Lieutenants Henry, Duncan, Kerby, McDonnell, Walker, Nugent, Henderson, Scudamore ; and Ensign G. Mitchell.

31st Foot.—Lieutenants Law, Elmslie, Timbrell, Gabbett Tritton ; Ensign Jones ; and Lieutenant and Adjutant Bolton.

50th Foot.—Colonel Ryan, K.H., Colonel Petit ; Captains Tew, Bonham, Needham and Wilton ; Lieutenants Hough, Smythe, Mouat, and Tottenham ; Ensign Slessor.

53rd Foot.—Lieut.-Colonel Gold ; Captain Smart ; Lieutenants Chester, Stokes, Breton and Clarke ; Ensigns Dunning and Lucas.

62nd Foot.—Lieutenant Haverland.

80th Foot.—Captain Cookson, Lieutenants Crawley and Kingsley, and Ensign Wandesforde.

1st Europeans.—Captain Magnay ; Lieutenants Patallo, Lambert, Dennis, Hume, Staples ; Ensigns Palmer and Innes.

14th Native Infantry.—Lieutenant D. Beatson.

16th " " " Captain Balderson, Ensign Hodson.

26th " " " Lieutenant Mackenzie, Ensign White.

33rd " " " Lieutenant Tulloh.

41st " " " Captains Halford, Cumberlege, and Lieutenants Onslow and Kemble, Ensigns Aikman and Bennett.

42nd " " " Major Polwhele and Lieutenant Macqueen.

43rd " " " Captain Lyell, Ensign Munro.

47th " " " Lieutenant and Adjutant R. Renny, H. James, Ensigns Walcot and Ogston.

59th " " " Lieutenant H. B. Lumsden.

63rd " " " Captain Ormsby, Lieutenant Morrison, Ensign Barber.

68th " " " Lieutenant Robertson, Ensign Doran.

Sir Robert Dick, whose name heads the list of killed, was an officer of long service and of very great reputation. He had been present with the 78th in the operations in Sicily in 1806, and received a severe wound at the decisive victory of Maida. In 1807 he accompanied the same regiment on the unsuccessful expedition to Egypt, and was badly wounded at Rosetta. In 1808, having obtained his majority, he exchanged into the 42nd, and commanded the light battalion of the Black Watch at Busaco, during the retreat to the lines of Torres Vedras, and in the subsequent advances to Ciudad Rodrigo ; he was wounded at the affair of Fons d'Aronze, and again at Fuentes d'Onor, but recovered to lead his regiment in many a hard-fought fight in the Peninsula, and he commanded them at Quatre-Bras, where he received two severe wounds, which incapacitated him from sharing in Waterloo.

On the day following Sobraon, our troops crossed the Sutlej, and, pushing on towards the capital, halted on the 12th at Kussore, thirty-two miles from Lahore. While here, the infant Maharajah Dhuleep Singh despatched his most influential ministers to the British camp with full powers to treat. The Governor-General received this deputation in durbar with stern solemnity ; he refused to accept the complimentary gifts usual on such occasions.

Mr., afterwards Sir Frederick, Currie, and Major, afterwards Sir Henry, Lawrence, were the officers de-

puted to carry through the treaty of peace. Briefly its terms were—

1. Cession to the British of all territory lying between the Sutlej and Bras rivers.
2. Payment of a war indemnity of £1,500,000.
3. Disbandment of the Sikh army and surrender of all its artillery.
4. The cession of Cashmere to Sirdar Gholab Singh.

On the 18th February the young Maharajah tendered his submission to the Viceroy in the British camp, and was re-conducted to his capital at Lahore by a strong escort of British troops. A force under General Sir John Littler was cantonned in the vicinity of Lahore, in order to show the Sikh chiefs and people that the British Government meant to enforce the fulfilment of the treaty.

The annexation of the entire Punjab was discussed by the Governor-General at the time, and there were some who strongly urged the necessity of such action, but Sir Henry Hardinge saw many difficulties in the way. Our force was far too weak to embark on such an undertaking; there were barely 20,000 troops with which to effect the conquest, for we should undoubtedly have had severe fighting ere we could have crushed the powerful remains of the Sikh army; and of these 20,000 but 3,500 were Englishmen. Hot weather was upon us, rendering military operations dangerous, and the overflow of the rivers during the summer season in the Punjab would have made military manœuvres well-nigh impossible. Military reasons were not the only motives that induced the Governor-General to show his clemency to the young Prince, who was now seated on the throne under the protection of British bayonets.

Casualties of British troops engaged in the Sutlej campaigns:—

	Killed.		Wounded.	
	Officers.	Men.	Officers.	Men.
3rd Light Dragoons .	6	124	15	121
9th Lancers . . .	—	1	—	1
16th " . . .	2	59	6	78
9th Regt. of Foot . .	4	92	8	274
10th Lancers . . .	1	29	2	101
29th " . . .	4	87	16	344
31st " . . .	3	175	22	358
50th " . . .	3	108	29	439
53rd " . . .	1	57	10	127
62nd " . . .	8	91	11	204
80th " . . .	5	53	7	167

PROMOTIONS GIVEN FOR SUTLEJ CAMPAIGN.

To be Aides-de-Camp to the Queen, with rank of Colonel.

1. Lieut.-Colonel the Hon. T. Ashburnham, 62nd Foot.
2. " C. C. Taylor, 29th Foot.
3. " C. R. Cureton, 16th Light Dragoons.
4. " M. White, 3rd Light Dragoons.
5. " H. M. Wheeler, 48th N. I.
6. " E. J. Maclarens, 16th N. I.

To be Lieutenant-Colonels.

1. Major J. W. Nunn, 80th Foot.
2. " W. J. Shortt, 62nd Foot.
3. " G. Congreve, 29th Foot.
4. " C. W. M. Balders, 3rd Light Dragoons.
5. " H. Sibbald, 41st N. I.
6. " Louis Bird, 24th N. I.



MAJOR-GEN. SIR W. NOTT.

7. " W. Alexander, 5th Bengal Light Cavalry.
8. " W. Wake, 44th N. I.
9. " D. Birrell, 1st Bengal European Light Infantry.
10. " H. R. Osborn, 54th N. I.
11. " R. Codrington, 49th N. I.
12. " T. Polwhele, 42nd N. I.
13. " J. Handscomb, 26th N. I. *
14. " Patrick Grant, 59th N. I. †
15. " R. T. H. Birch, 17th N. I.
16. " Fred Brind, Bengal Artillery. *

* Murdered in the Mutiny by their own men.

† Now (1887) Field-Marshal Sir Patrick Grant, G.C.B., Governor of Chelsea Hospital.

17. Major G. Campbell, Bengal Artillery.
 18. " P. Innes, 14th N. I.
 19. " J. Curtis, 17th N. I.

To be Majors in the Army.

- Captain J. Tritton, 3rd Light Dragoons.
 " J. R. Hall, 3rd Light Dragoons.
 " C. Havelock, 9th Foot.
 " A. Borton, 9th Foot.*
 " A. Stepney, 29th Foot.
 " Hon. Sackville West, 21st Foot.
 " John Garvoeck, 31st Foot. †
 " S. Fisher, 3rd Light Dragoons.
 " P. O'Hanlan, 1st Bengal Light Cavalry.
 " S. Nash, 4th Bengal Light Cavalry.
 " R. Houghton, 63rd N. I.
 " H. Garbett, Bengal Artillery.
 " L. Taylor, 26th N. I.
 " E. F. Day, Bengal Artillery.
 " W. B. Thomson, 67th N. I.
 " R. Horsford, Bengal Artillery.
 " R. Napier, Bengal Engineers.‡
 " F. W. Anson, 18th N. I.
 " J. R. Pond, 1st European Light Infantry.
 " E. Mills, Bengal Artillery.
 " G. Johnston, 46th N. I.
 " G. Carr, 21st N. I.
 " C. J. Burnett, 2nd Bengal European Regiment.
 " P. Hay, 54th N. I.

* General Sir Arthur Borton, G.C.B.

† This officer received the K.C.B. for his services in the Umbeyla Expedition of 1868.

‡ Now Field-Marshal Lord Napier of Magdala, G.C.B., Constable of the Tower.

- Captain W. B. Holmes, 12th N. I.
 " A. E. J. Mackay, 16th N. I.
 " R. T. Sandeman, 33rd N. I.
 " G. Short, 45th N. I.
 " H. Palmer, 48th N. I.
 " G. H. Swinley, Artillery.
 " A. MacDougall, 73rd.
 " A. M. Becker, 61st.
 " J. F. Egerton, Artillery.
 " J. Christie, 3rd Cavalry.

In the following gazette, Lord Hardinge was advanced to the dignity of Viscount, and Sir Hugh Gough to that of Baron. Sir Harry Smith was given a G.C.B. for Aliwal, his actual permanent commission being merely that of Colonel in the army, though in the same gazette he was granted the local rank of Major-General in India. Major-General Walter Gilbert was made a K.C.B., and the Companionship of the Bath bestowed on Colonels T. Reed, 62nd, and Hon. T. Ashburnham of the same Regiment; Peter Ryan and John Petit of the 50th; T. Bunbury and R. Wood of the 80th; John Burns and James Spence of the 31st; M. Barr, 29th; Barnwell, 9th; and also on Lieut-Colonels D. Harriott, 8th Bengal Light Cavalry; J. Parsons, 18th N. I.; J. Weston, 31st N. I.; J. Gardner, 14th N. I.; W. Burton, 7th Light Cavalry; W. Garden, and Pat Grant* of the Q. M. G.'s Department; J. Stuart, 70th N. I.; R. Benson, 1st N. I.; G. Hicks, 47th N. I.; W. Mactier, 4th Light Cavalry; G. Brookes, W. Geddes, G. Denniss, and E. Huthwaite of the Bengal Artillery.

* Now (1887) Field-Marshal Sir Patrick Grant, G.C.B., Governor of Chelsea Hospital.

(To be continued).



MILITARY TRAINING.

BY CAPT. MANERA, MADRAS STAFF CORPS.



*N*a recent number of the *Nineteenth Century*, Colonel Lonsdale Hale laments "Professional Ignorance in the Army." The great want in an officer's military education, according to Colonel Hale, is a practical knowledge of Tactics. Colonel Hale infers that the instruction of officers in this branch of military education is purely theoretical, being confined to lectures in the hall of study. The system which obtains at Sandhurst is to give cadets maps of the country over which tactical dispositions are to be made, and to take them out of the ground and post some of them so as to show what dispositions are advisable, and then to make the cadets fill in the maps themselves from the instruction given on the ground, and we believe this course, so far as possible, is pursued by garrison instructors in India.

Colonel Hale then goes on to say, "The point which is absolutely necessary is, that the further training of the qualified junior officers cannot be carried a step further unless the work of instruction is taken up and carried on by the superior officers, viz., the regimental commanders and the generals. The completion of the training is practical tactics. Of this the superior officers alone can be teachers. What is asserted here is that there is no systematic instruction, no security that the instruction is properly carried out and no thorough inspection of the work done."

As there are seventy one thousand European and one hundred and forty thousand native troops in India, and as the title of Colonel Hale's article is "Professional Ignorance in the Army," of which the army in India forms an important part, I will state, for the sake of refutation, as shortly as possible, the annual course of instruction laid down by the Commander-in-Chief in India and carried out by companies, squadrons, regiments, and brigades.

The first step in the annual course of military training is the instruction of the cavalry and infantry by squadrons and companies under their own immediate officers. For this course all the officers and men of the squadron or company are relieved from other duties, and exercised for four hours daily for from fourteen to twenty-one days.

The particulars of this training are fully enumerated in a general order which is published annually, and details the exact course to be carried out by all troops,

European and native, for the current year. These include the employment of the squadron or company in every position, in attack and defence, on the move or at the halt, both by day and by night. This course is most comprehensive, and in it both officers and men are taught to perform every duty which would be likely to fall to them on active service, from making camp kitchens, packing baggage on trains or animals, to the attack and defence of posts, and outpost duties.

Great stress is laid on the tactical employment of squadron or company in every position, as also on fire discipline. As "security that the work is properly carried out," a daily statement of parades for instruction, as also a diary of attendance of each man, are kept by the squadron and company commanders, and forwarded by them to general officers, and the statements of parades are finally forwarded to the Adjutant-General. On the conclusion of this course each squadron or company is put through a searching inspection by the officer commanding the regiment. As a further check, general officers are directed to test the merits of the instruction imparted, by exercising the squadrons and companies of different regiments against one another. When all the squadrons and companies of regiments have completed the above courses, regiments are drilled in the field by their commanding officers, and frequently inspected by general officers to show that this instruction has been thoroughly carried out.

The cavalry, under present arrangements, are exercised with artillery in camps of exercise, and the three arms combined as frequently as possible during the cold weather. When practicable, camps of exercise are held in the presence of local commanders-in-chief. During the whole of this annual training it is especially enjoined that all movements should be carried out, as far as possible, under the conditions of actual warfare.

Near the end of his article, Colonel Hale insinuates that the majority of commanding officers spend their time in teaching their men to march past. This certainly is not possible in India, and I very much doubt if it is the case at home; all I wish to point out is that for a large and important portion of the British army, numbering over one hundred and ninety thousand, a most complete system of practical tactical instruction is carried out annually under thorough supervision, and the sweeping charge of "Professional Ignorance in the Army" cannot be justly applied to this portion.

INDIAN LIFE.

"THE CANTONMENT MAGISTRATE."

By MAJOR-GENERAL DE BERRY.



HIS functionary, peculiar to India, is invariably a military officer of one of the Indian staff corps. In a non-regulation province, he is generally chosen from amongst the military officers of the Indian army in civil employ in the province. Perhaps it will not be considered out of place here to explain what is meant by a non-regulation province. It is one in which the officers administering the civil government of the province are a mixed lot; some are covenanted, others are uncovenanted civilians of the Indian Civil Service; the rest are military officers lent from the Indian army, for employment in civil capacities. This is the arrangement adopted in newly-annexed provinces, such as the Punjab, Sind, Burmah, and the Eastern Frontier of Bengal, where the soldierly element is found to be an advantage. As the country settles down, or after some time, only civilians, and those mostly covenanted members of the Indian Civil Service, are appointed, so in time the military element disappears, and the province ceases to be considered a non-regulation one. The cantonment magistrate is under both civil and military orders, but principally he is answerable to the former, to the commissioners, and other chief civil functionaries of the division in which the station he is serving at is located. The appointment is made by the Civil Government. As the secretary of the cantonment committee, he is the officer entrusted with carrying out the cantonment regulations in cantonments, and he is in that respect under the orders of the officer in military command of the station. The cantonment magistrate lives in military cantonments, and usually has a house told off for him. It is difficult to define the duties of the cantonment magistrate; in fact, if he is energetic and obliging, it would be hard to say what he does not do. In the first place he is answerable for the sanitary condition of the station, and in this he is assisted by a conservancy sergeant. He has charge of the bazaar, and has under him for its management, a kotwal, and several peons or chaprassies. As secretary, he attends cantonment committee meetings. He holds court all day in his magisterial capacity. Carriage for the conveyance of stores, troops, baggage, and so forth, is hired or pressed by him. As I said before, if found to be accommodating, he is receiving and answering chits

all day long, from officers and ladies in cantonments. These chits or notes contain requests to have their servants punished for some trifling misdemeanour, to supply them with new servants, for redress on some complaint made, or to procure them something they are very much in want of. He tries all civil offences committed within cantonment limits, disposing of such of them as he is empowered to settle, and preparing and sending forward for trial by superior courts all such serious offences as are beyond his jurisdiction.



THE VAKEEL (LAWYER).

Besides obligatory work, he does a lot of optional things as well; by this I mean answering officers and ladies chits, together with many other kind acts, which he good-naturedly does for the ladies and gentlemen in cantonments. Some of the requests are often outlandish, and beyond the powers in reality of the cantonment magistrate, but, nevertheless, he endeavours to do what is wanted; if he fails, he is generally condemned at once, and loses much in the estimation of the canton-

ment society, especially in that of the ladies. One of these chits has been known to convey a request to the cantonment magistrate, to administer a flogging to the bearer for some real or imaginary wrong done ; on a repetition of the request the individual for whom the castigation was meant was cute enough to avoid the beating by transferring the chit, and having it conveyed by other hands than his own, and then the innocent person, because punishment following closely upon crime is considered much more effectual, got the contents of the request, often before the mistake was discovered. This, however, is pretty well guarded against now, for the people of India are getting more enlightened than they were in dealing with Europeans ; they will, if possible, read the chit, or get it read for them before delivery, and sometimes, by its changing hands very often, in the end the note gets lost ! If a lady in India wants a nurse or a waiting-maid, it is the cantonment magistrate she invariably applies to. He is also often appealed to when the house-keeping accounts are presented for settlement, if it is found that a lady's butler or khansamah has been too grasping, and overcharged in quantity or price of articles, more than usual ; at other times it is the quality of the thing sold in the bazaar that is objected to. Occasionally complaints are lodged and summonses issued against Europeans, at the suit of natives ; when it is so, and such cases come on for trial, the sympathy of greater part of the European public in the station is generally on the side of the European defendant ; and should the cantonment magistrate have, on the evidence, to decide the case in favour of the native plaintiff, he is frequently pronounced as having all his sympathies for natives—this is the opinion formed probably by Europeans from only an *ex parte* knowledge of the case. The cantonment magistrate is either popular or unpopular, there is no intermediate state. To be the former, and at the same time act with reason and justice, and please everyone, requires that the officer chosen for the post of cantonment magistrate should have more than ordinary discrimination and tact ; he should have an even temper, and be of good manners and address. The cantonment magistrate, in mixing in cantonment society, which is often composed of a small and necessarily gossiping European community, with little else to talk about in a little distant up country station, except the state of the weather, or the affairs of neighbours, soon discovers the feelings of that society towards himself. The cantonment magistrate being soldier and civilian, he is sure to have proclivities one way or other, not both, and these exhibit themselves in his dress and conduct ; if he is most proud of having wielded the sword, he always wears his military uniform when dining at his General's table, or at military entertainments ; he takes a soldier's view of things, acknowledges readily his General's

orders, likes to attend divisional or brigade parades of the troops, on which occasions he joins the staff, thereby swelling his General's following, and in every way manifests that he is a soldier, although he may sometimes wear a black coat in the performance of his various duties. If those proclivities tend the other way, and it is his civil capacity and his pen he most favours, he will separate himself almost entirely from official military circles ; on any question admitting of discussion he ranges himself on the side of civilians, does not admit he can adopt the orders of the military authorities of the station, but refers everything to the chief civil authority of the province, division or district, and finally always wears a black coat in spite of the season of the year and everything else ; and if it is likely to raise a

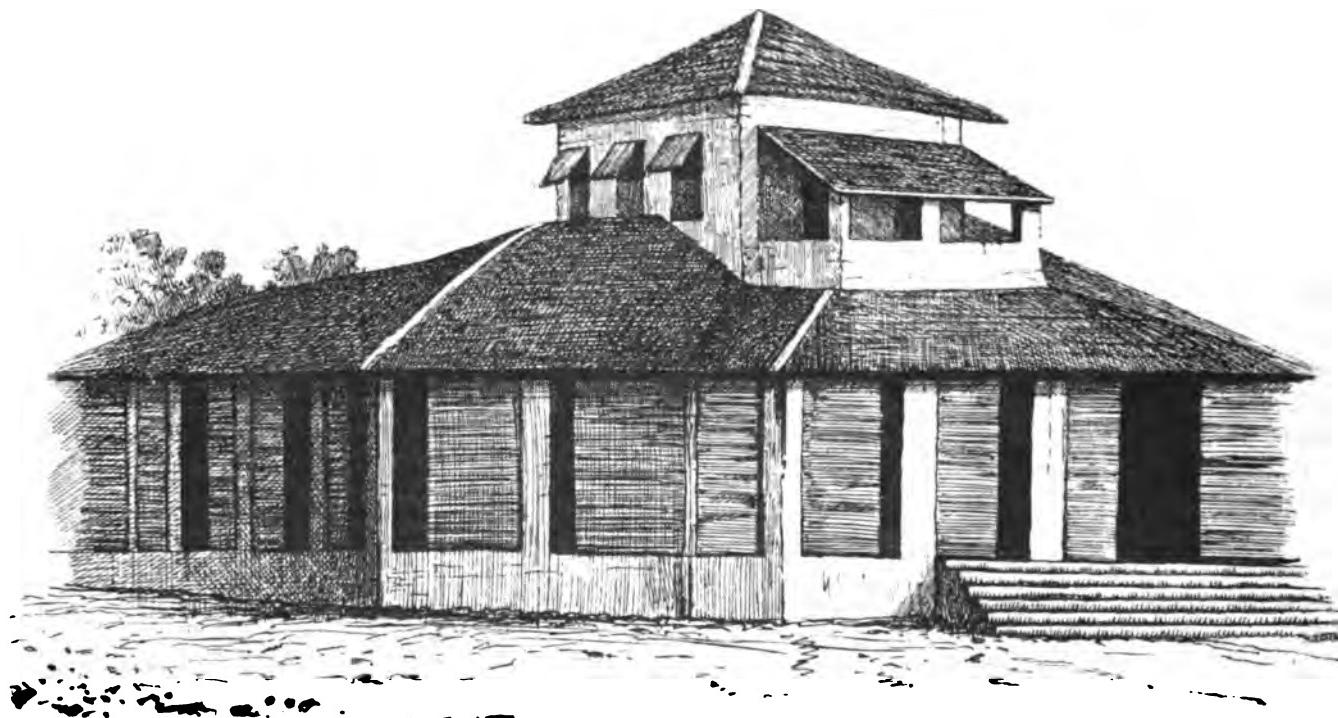


TAPAL WALLAH (POSTMAN).

question by the military of his right to do so, will even wear it at *lèvées*, dinner parties, in fact everywhere, or at least will try to do so. If the cantonment magistrate is a nice fellow, and of a genial disposition, he can do much for the harmony of station society generally, and help to remove the normal drowsiness which, without enlivening spirits to rouse people, envelops Indian stations, as the arrangement of his time rests with himself, and he has plenty of native followers, carts, and animals at his beck and call ; he is the fittest person to have the management of the station assembly-room, the library, the public gardens, and to arrange entertainments got up at any of these places for the amusement of the people of the station and neighbourhood. The name by which the

cantonment magistrate is known and familiarly called by Tommy Atkins, Jack Sepoy, and the native community of the station, is Bazaar Master; he has been given this designation because he regulates the station or Sudder Bazaar, of which he has control. I need scarcely explain that *bazaar* means "market and shops." The position of cantonment magistrate is no doubt a trying one, and much care is desirable in the selection of persons to fill it. In a station he is the dispenser of either harmony or discord, just as his natural disposition dictates. To the grif, or to troops suddenly ordered on the march, he has it in his power to be a great source of strength, for he can find servants and carriage transport, and also can see that they all fulfil their several engagements. Though the cantonment magistrate

stations, assistant cantonment-magistrates are appointed to assist the cantonment magistrate in his manifold duties. A sound knowledge of civil legal work in a cantonment magistrate is absolutely necessary, for in his court civil counsel is admitted, and in many Indian stations pleaders, both European and natives, are in abundance, and any misdirection of justice would be at once detected, and the consequence might be fatal to the future career of the cantonment magistrate. Of course he must know military law, and how the Army Act bears on soldiers and civilians. The duty of issuing licences devolves on the cantonment magistrate; but in each case he has to obtain the sanction of the officer commanding the station. The Abkari contract for making and selling native liquor in cantonments is



BUNGALOW IN A BOMBAY MILITARY CANTONMENT.

is required to be accommodating, he should not be wanting in firmness. The state of the roads, trees, and cleanliness of the station, are all in the hands of the cantonment magistrate; he, with grants of money from the cantonment funds, has the roads repaired, has them watered every evening, and lighted at night by means of kerosine lamps; he has trees planted for shade at the sides of the roads, and, to sum up with, looks after the general appearance and healthiness of the station. He keeps a register of servants out of place, and their written characters are stamped in his office to prevent any deception. He has to pass examinations in law, and his magisterial powers depend on the standard he, at his examination, qualifies for. Of course he must have passed the Higher Standard in the lingo of the country. In some large

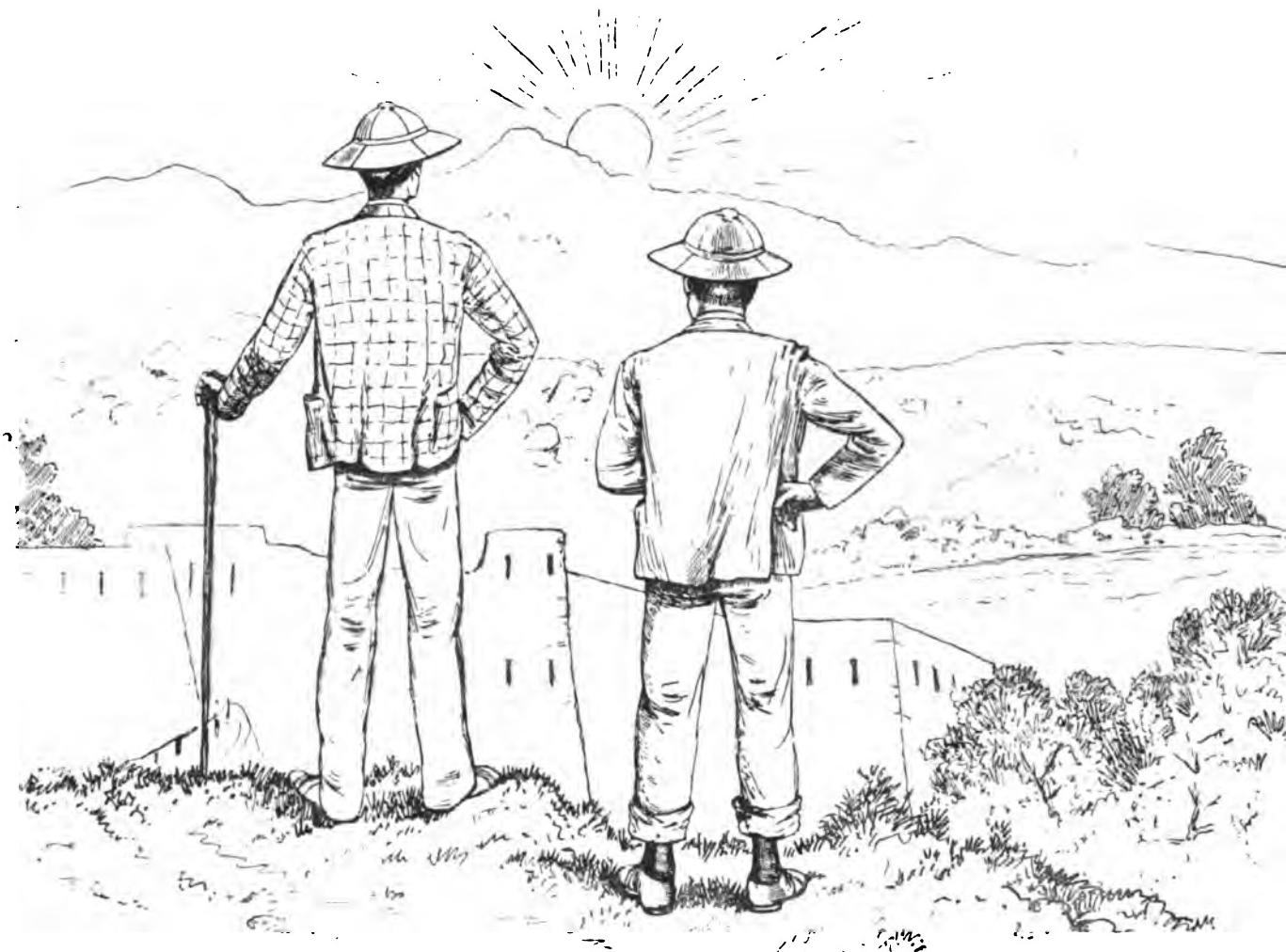
entered into by the cantonment magistrate, and the proceeds paid for the privilege and monopoly are credited to the Government. A clause in the contract forbids the sale of native liquor to European soldiers, and, for any infringement of it, a heavy fine is inflicted. The custom-house duty of the station is conducted under the orders of the cantonment magistrate, and all goods brought into the station are taxed. This tax is called octroi. The police keep a sharp look-out, but articles coming from villages all round about can easily be smuggled into a cantonment open on all sides, and I am afraid that this is done rather often.

Cantonment magistrate's work is not very popular with military officers in civil employ; they prefer the Simon Pure civil work, for at it they think they have a much better chance of preferment. Certainly a can-

tonment magistrate is rather out of sight of the civil authorities from whom any advancement as a civil officer is to be expected, and that must, in a measure, militate against any prompt recognition of good capacity for civil work, so the officer in civil employ, on being appointed cantonment magistrate, considers himself shunted, and tries to revert again to civil employ proper as soon as he can.

The cantonment magistrate in his office is very hard worked ; he gets but little leave ; when he does go away for a bit, it is not anyone that can do his work. Some duly qualified officer has to be found, and is ap-

in this category is included the cantonment magistrate ; but they can cheer up now, I have good news for them of better times coming, for by India Government orders in a recent newspaper from India, an exception seems to have been made in favour of a cantonment magistrate at Poona, Colonel La Touche, who has been selected to exercise the military command, &c. at Aden, during the absence on leave of Brigadier-General Hogg, C.B. Certainly the Aden command is not like other commands, for in it are merged the duties of Civil Governor, Political Resident, head of the Admiralty and Salvage Boards, in all of which any legal knowledge acquired as



FAMILIAR OBJECTS IN THE PUNJAB.

pointed by the Civil Government of the province. As often as not it is not the first application from the cantonment magistrate for leave that is complied with ; frequently the reply comes that no relief is available, and so the cantonment magistrate has to wait, and apply again. The suits of natives against Europeans, and *vice versa*, require to be conducted with great care and delicacy, for here sentiment, and the influence of caste, predominate. The law places everyone on an equality, but local society does not.

Civil employment is considered a disqualification in an army officer for any military command in India, and

cantonment magistrate would probably come in handy. So I will repeat, "Cheer up, Cantonment Magistrates ! hold up your heads again as military men ! good times are coming for you. There is, at least, one of the plums of Indian military commands you can aspire to, and may reach when high enough to hold it—the Aden Brigade." And, let me say, residence at Steamer-point, Aden, is not to be sneered at. Unfortunately I only had the experience of Aden Cratur, as the cantonment is called, in which I passed one year (the cantonment magistrate had passed several), and very hot, monotonous, and disagreeable I found it.

POR TABLE RAILWAYS FOR FIELD PURPOSES.

BY KARL VON AUSLAND.



THE portable railway has been employed in most of the small wars of recent years, more especially by the French in Tunis and Tonquin, and the Russians in Asia; and, in the opinion of all who have had practical experience of its working, is an invaluable means of pushing forward supplies to the front with rapidity and certainty. It has, indeed, effected a revolution in military transport over districts in which permanent railway communication is rare or unknown. The phrase "portable railway," as it is understood by most manufacturers at the present time, is of strictly limited application. It does not include systems on which rapid steam transport is required, and, in most cases, the necessary motive power would be furnished by men or horses. When locomotives are in question, the line becomes more or less permanent, its construction involves

that for war purposes the employment of men on portable railways would be far more effective than that of horses in the ordinary way. The continual traffic of heavy wagons and guns, especially in wet weather, soon breaks up the best roads; whereas injuries to the railway would be infrequent and easily repaired. The comparative value of human as compared with animal transport is still further increased when the food supply is taken into account. Whereas, a man under ordinary circumstances would receive a daily ration of about 1 kg., a horse would require at least 8 kg.

It is found, however, that the mechanical advantages of the railway diminish rapidly when inclines are in question. On a level road, as before stated, the ratio of force exerted in haulage is as 1:16 in favour of the railway. With an incline of 1 in 50 it decreases to 1:5, and at 1 in 7 to 1:16.

When the incline is 1 in 50, it has been determined

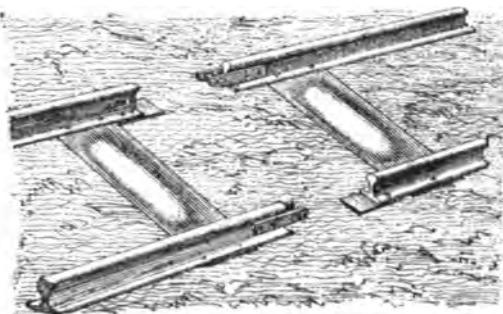


FIG. 1.

considerable time; and the saving of time is the *raison d'être* of the portable railway.

The mechanical advantages of this new form of field transport over the old system of carriage by road, are undeniable.

Practical experiments have shown that the power exerted in hauling a truck on a good road is 5 times, on a bad road from 16 to 17 times, that required on a portable railway.

The comparative hauling power of men and horses is shown by the following figures:—On a portable railway, a man can haul 2,116 kilogrammes, on a good road 438 kilogrammes, on a bad road 180 kilogrammes. A horse can haul 10,000, 2,000, and 600 kilogrammes respectively. It appears from this that a man on a railway is equivalent to three horses on a bad road. Captain Victor Tilschkert, writing in the *Mittheilungen über Gegenstände des Artillerie und Genie Wesens*, contends

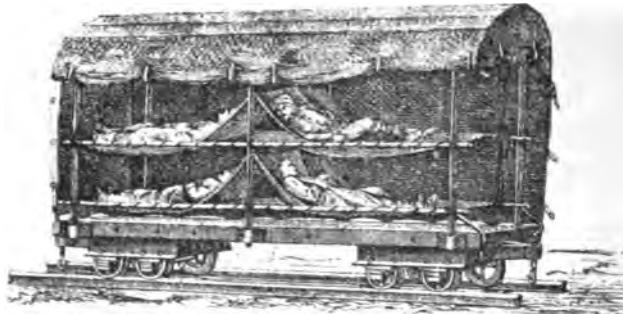


FIG. 2.

that a pair of horses and a driver on a good road can haul as much as two men on a portable railway. The work, therefore, of a transport column of 6,000 drivers and 12,000 horses could be performed by 12,000 men, with the aid of a portable railway. The 12,000 workmen would require daily 12,000 kilogrammes of provisions; the transport column at least 100,000 kilogrammes. By adding, therefore, 6,000 men to those already employed as drivers, and constructing a portable railway, Captain Tilschkert urges that 12,000 horses might be spared for other purposes, together with the cost and transport of nearly 100,000 kilogrammes of forage per diem.

For railway transport also over long distances, Captain Tilschkert contends that human is more advantageous than animal labour. In the first place, the railway would be constructed, wherever possible, along existing roads; and, in order to interfere as little as possible

with the movements of the troops, would probably be laid down on the footpath. Owing to the narrowness of the gauge, varying between 40 and 70 cm., this would be perfectly practicable. In this case, a horse travelling at the side of the track, would encroach considerably on

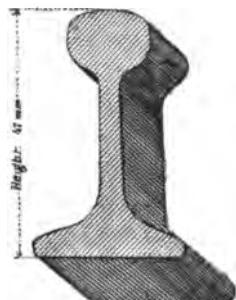


FIG. 3.—Two-thirds of Full Size.

the roadway, which in wet weather would soon become almost impassable, and would need frequent repair. A man, on the other hand, could move between the rails; thus not only leaving the road free, but applying his strength with much greater mechanical advantage. For this purpose it is proposed to provide a wooden pathway formed of boards 30 cm. in breadth and 30 mm. in thickness, running inside the track. The weight of these boards would be less than one-thirtieth of that of the materials required for constructing a pathway suitable for horse traffic, while the wear and tear would be proportionately small.



FIG. 4.—Two-thirds of Full Size.

For portable railways, the traverse sleeper is generally regarded as the most suitable. The portable field railway of the future will probably consist of sections, composed of two rails joined by a cross-sleeper. The rails, which would be required in war to resist considerable strains, must be at once light and strong. They must, therefore, be prepared with the most careful workmanship from the best steel. The weight of the rail per yard varies, according to the system on which the railway is constructed, between 6·8 and 16 lbs. It is found that with a rail of 14 lbs. per yard, the weight of the laden truck may be 5,700 lbs., at a distance of one yard from the sleeper, 3,100 lbs. at a distance of 1½ yards, and 2,200 at 2 yards. A rail weighing 12 lbs. to

the yard will bear 4,800 lbs., 2,600 lbs., and 1,650 lbs. respectively.

Considerable difference of opinion exists among manufacturers of portable railways regarding the comparative value of iron and wooden sleepers. Much is to be said on both sides of the question. The advocates of iron sleepers contend that even when creosoted, wood is extremely liable to decay rapidly under adverse climatic conditions. In portable railways, which are necessarily laid down in extreme haste, a considerable portion of the wooden sleeper is necessarily exposed.

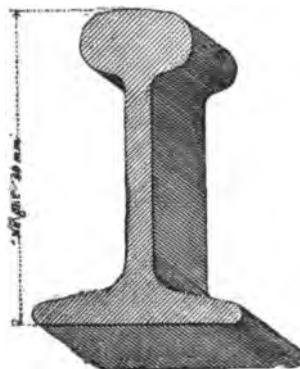


FIG. 5.—Two-thirds of Full Size.

Longitudinal cracks soon occur, and a line built in this way is in need of frequent repair. Moreover, it is urged that between metallic rails and wooden sleepers no such firm connection can take place as between uniform materials. The expansion and contraction of wooden sleepers brought about by every change in temperature necessarily tends to weaken the joints by which the rails



FIG. 6.—Two-thirds of Full Size.

are fastened, and to cause a gradual lateral displacement of the metals.

The advocates of the wooden sleeper, on the other hand, contend that it is lighter, cheaper, and more easily replaced than its rival. Moreover, in consequence of its elasticity, it is better able to resist a strain applied simultaneously at both extremities than the iron sleeper which is liable to bend, and in so doing, decrease the

width of gauge. Moreover, the laying down or taking up of iron sleepers is extremely difficult during a frost, when the metal not only clings tenaciously to the ground, but is liable to break if force is applied.

It appears from the above contentions, that the selection of the iron or wooden sleeper would depend upon the peculiarities of the country through which the railway would pass. In a swampy district, for instance,

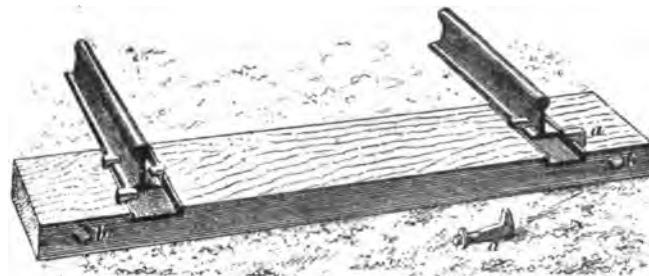


FIG. 7.

the wooden sleeper is generally regarded as the more advantageous, owing to the greater surface it presents, and consequently to its greater supporting power.

As a rule, iron sleepers vary between 2 ft. 7 in. and 2 ft. 11 in. in length, and weigh from $7\frac{1}{2}$ to $8\frac{3}{4}$ lbs. Wooden sleepers vary between 2 ft. 11 in. and 3 ft. 8 in. in length, and weigh from $6\frac{1}{2}$ to $7\frac{1}{2}$ lbs.

The gauge necessarily depends wholly on the object which the railway is intended to serve. For military purposes, when guns and heavy transport wagons are to be carried, it has not hitherto been considered advisable to reduce the width below 60 cm. (1 ft. 11 in.).

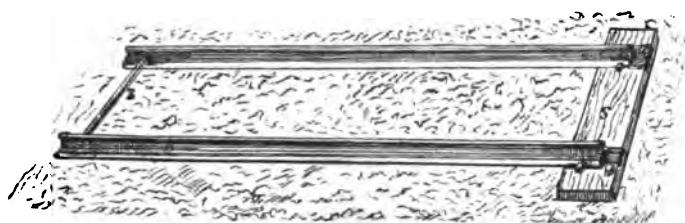


FIG. 8.

The size of the section varies considerable in different systems. Some manufacturers advocate the use of long sections with several sleepers, to be laid down by two men; others—and these are now in the majority—construct the section of such a length and weight that it may be easily handled by one man. The methods by which the sections are joined form, as a rule, the fundamental differences between the various systems.

M. Décauville, a Frenchman, claims to have been the inventor of the portable railway. His priority has been contested by several Germans, but there is no doubt that Décauville's system was the first to receive extensive practical application. He appeared before the French public in 1876, and his invention was so generally adopted that, in 1881, 1,300 kilometres of rails

and 1,500 wagons were in use. He is now able to turn out 180 kilometres of railway, and 3,000 wagons at a month's notice. Modifications of the system were soon adopted in Prussia, where 485 kilometres of railway, and 6,600 wagons are in operation.

For war purposes, the Décauville railways were first adopted by Russia. During the Turkestan campaigns, the Imperial Government sent a Commission to England France, and Germany, for the study of various systems of portable railways; and by its advice, the Décauville principle was adopted. The necessary matériel for 106 kilometres of railway with a gauge of 50 centimetres and rails weighing 7 kilos to the metre was at once ordered, together with 500 wagons and 2 locomotives. This railway was used to connect Michailovsk with Kizil Arvat, and served not only for forwarding provisions to

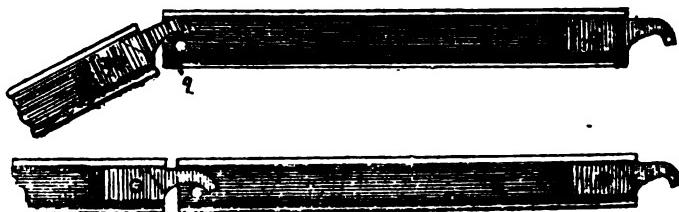


FIG. 9.

the front, but as a means of constructing the larger permanent line which was soon afterwards built. Throughout the construction of the Transcaspian Railway, the Décauville portable line has been of immense assistance as a means of bringing up the necessary material to the front. The value of the railway can best be estimated by recalling the difficulties encountered by Poljakoff in the construction of the Bender-Galatz line in 1876, when the transport of two rails required a wagon and a pair of oxen.



FIG. 10.

Décauville's portable railways have since been used by the Dutch in their campaign against the natives of Sumatra, by the French in Tunis and Tonkin, by the Italians at Massowah and by our own troops in Afghanistan.

The Décauville System.

In his narrow-gauge railways, M. Décauville is careful to distinguish between fixed and portable lines. Both

are in so far portable that they can be easily raised and relaid. The former, however, is intended as a permanent means of transport, and by providing suitable relays of horses, a speed of 12 kilometres per hour may be attained upon it. The portable line, on the other hand, is employed in lengths of a few miles only. The rear-most sections are taken up and relaid in front at the rate of from 1 to 2 kilometres per hour, according

Décauville's portable railways are constructed, according to requirements, of rails weighing $4\frac{1}{2}$, 7, $9\frac{1}{2}$, and 12 kilogrammes per metre, (9 lbs., 14 lbs., 19 lbs., and 24 lbs. per yard). The lightest rails are built in sections of 5 metres, $2\frac{1}{2}$ metres, and $1\frac{1}{2}$ metres in length. The foot of the rails is much broader in proportion than that of the metals employed on railways of ordinary gauge. The gauge adopted by the French engineers

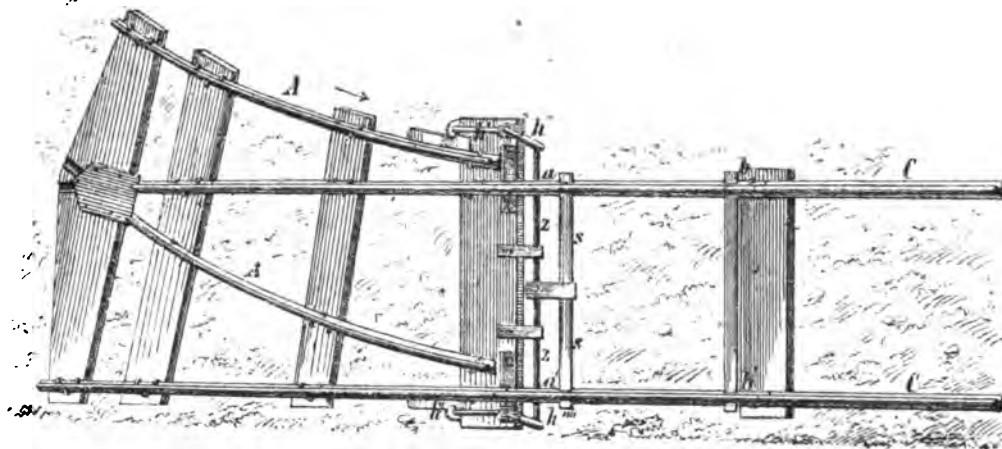


FIG. 11.

to the number of men available. This method of construction is extremely advantageous when the line is in danger of destruction or removal by the enemy, or when laden trains meet on a single track. In this case it will be necessary for each truck to carry a section of railway corresponding to its own length. A single wagon may thus be moved over a line on which considerable traffic is running, if it is provided with an inclined plane turn-off, two curved, and two straight

in employing Décauville portable railways of this type is 40 centimetres (1 ft. 3 $\frac{1}{2}$ in.). A section 4 metres in length, weighing 42 kilogrammes, may easily be carried by one man. Décauville, however, advocates the use of sections 5 metres in length, weighing 53 kilogrammes, and laid down by two men. The sleepers originally used on this type of railway were flat; but they have been replaced of late years by others of trough shape.

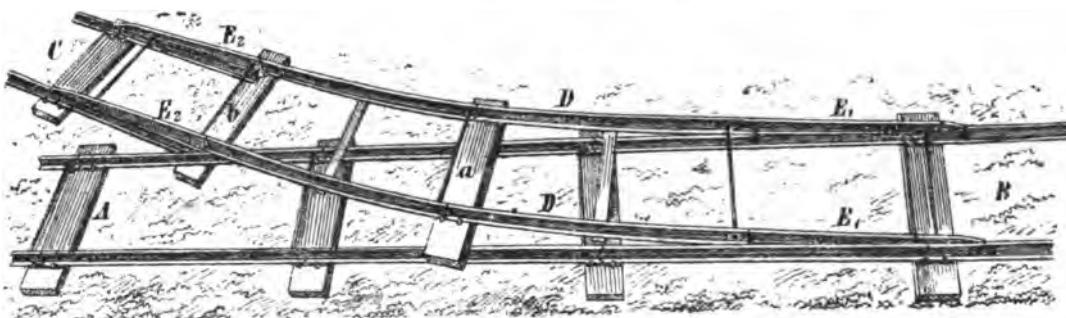


FIG. 12.

sections. The movement of a train in this manner is also extremely advantageous when a portion of the permanent way of a railway has been destroyed. If, for instance, gaps of 12 kilometres exist in a railway 120 kilometres in length, the whole distance, which, when the line is complete, could be covered in fifteen hours, would require $15+12=27$ hours, allowing the rate of about 1 kilometre per hour over the gaps. Without the aid of the portable railway, the line would be wholly useless until the gaps were filled in.

When his system was adopted by a mixed commission of French engineers and artillery officers, M. Décauville invented a rail-joint especially adapted for military purposes. The right-hand rail of each section (see Fig. 1) is provided with two tongue-pieces, while the corresponding extremity of the left-hand rail carries a projecting plate strongly riveted to its under side. The tongue-pieces firmly grip the corresponding rail of the next section, while the projecting plate gives support and solidity to the joint. This form of joint allows,

during construction, considerable freedom both in a vertical and horizontal direction; although, when once fixed, it is perfectly rigid. By suitably arranging the tongues and projecting plates, the line may be con-

kilogramme rails are constructed in lengths of 5 metres, with six corrugated steel sleepers. They have a uniform gauge of 60 centimetres, and were used by the French in Tunis. The largest type of portable railway, con-

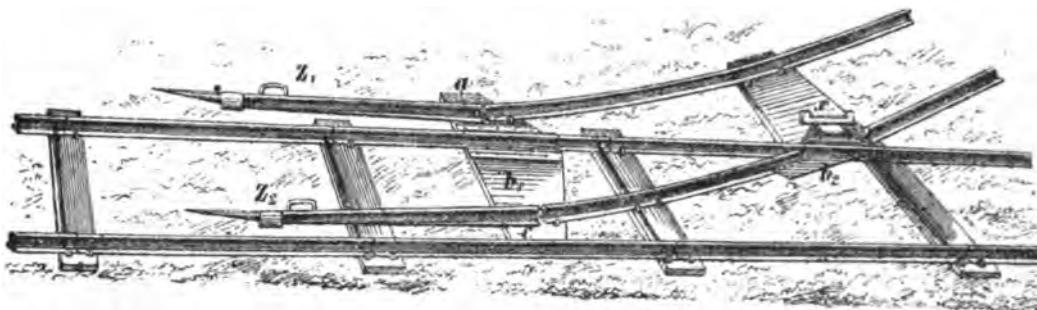


FIG. 13.

structed in a curve, or made to adapt itself to the most uneven ground.

Sections constructed of rails weighing 14 lbs. per

sisting of rails weighing 12 kilograms to the metre, is constructed with a gauge of 60 centimetres. It has been practically employed in the Argentine Republic for heavy agricultural transport.

Of the immense varieties of rolling stock which Décauville manufactures for military purposes, space will only permit us to cite one type, shown in Fig. 2. By means of these wagons the wounded may rapidly and safely be moved to the rear—a method in marked contrast with the old transport in country carts and similar vehicles.

The Dolberg System.

The peculiarity of this system is that each section of rails has only one sleeper, and is, therefore, adaptable for the most rugged and uneven ground. A railway constructed on the Dolberg system may be laid down without any previous preparation of the soil; and owing to the automatic character of the rail joints, the construction may be effected with extreme ease and rapidity.

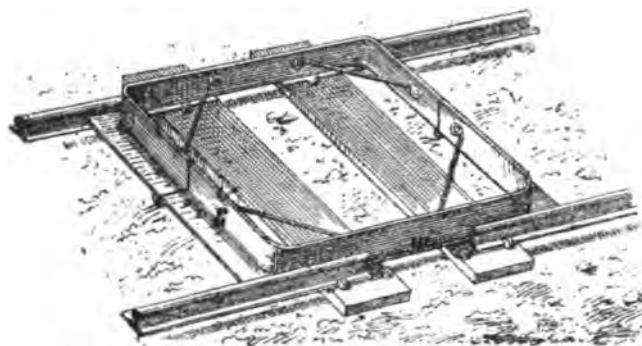


FIG. 14.

yard are 5 metres in length, and are provided with five sleepers, which do not project beyond the rails. The usual gauge is 50 centimetres (1 ft. 7½ in.). This form

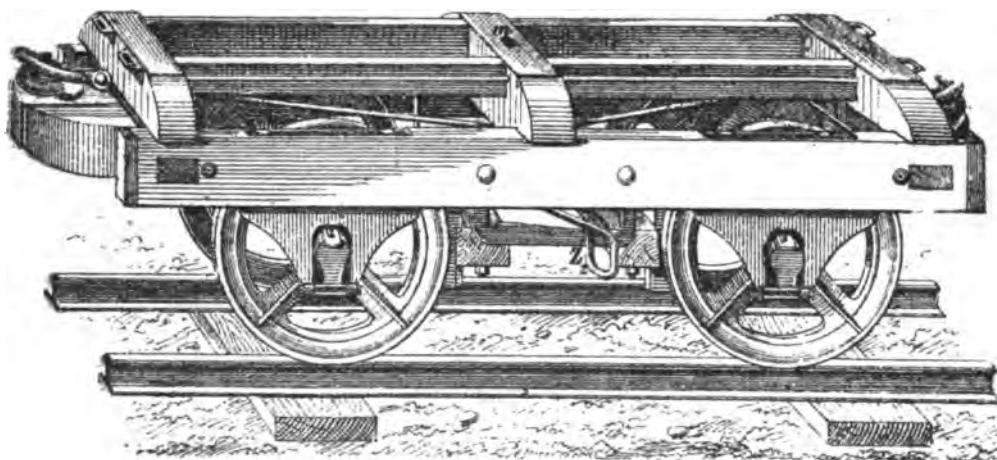


FIG. 15.

of railway is now used by the Russians in Turkestan, in the French fortresses Villeneuve, St. Georges, Verdun, Domont, and Vincennes, and in the construction of the Panama Canal. Sections composed of 9½

inches wide by 2 inches thick weigh 14·62 lbs. per yard). The rails are manufactured from Bessemer steel on the patterns shown in Figures 3, 4, 5, and 6. The weights are respectively 3·4 kg., 4·6 kg., 5 kg., 7·2 kg., per metre (6·9 lbs., 9·3 lbs., 10·15 lbs. and 14·62 lbs. per yard).

The separate sections, constructed of the rails shown in Figs. 3, 4, and 5, are 1·5 metres in length; those built of the rail shown in Fig. 6 are 2 metres in length.

The sleepers used on the Dolberg portable railway are preferably of creosoted pine. It is considered by the inventors that wooden sleepers are more advantageous than iron in the construction of temporary railways where the ground is frequently soft and yielding, owing to the greater surface they present.

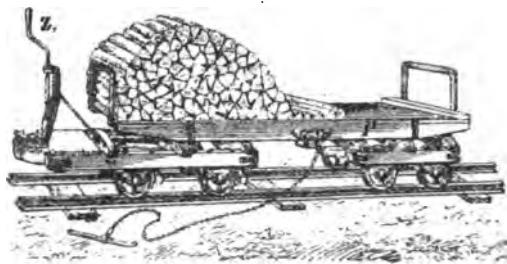


FIG. 16.

The attachment of rail and sleeper is simple and efficacious. The rails rest in a wrought-iron channel, so constructed that spreading or longitudinal displacement is impossible. Any tendency to shift in a longitudinal direction is obviated by means of a bolt or screw passing completely through the foot of the rail, the wrought-iron channel and the sleeper. This form of joint is shown in Fig. 7. The screw *a* passes through the entire thickness of the sleeper; while similar screws *b* running laterally, prevent any chance of splitting. The wrought-iron channels have the further advantage that they allow the railway to be constructed with a

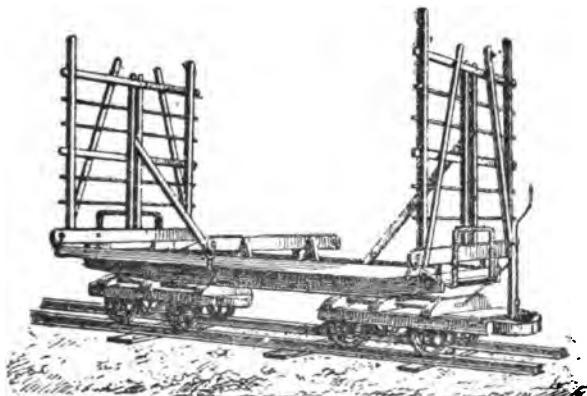


FIG. 17.

slight curve without the employment of specially prepared sections.

Fig. 8 shows a modification of the system, by which each section consists of a sleeper *s* and an iron cross-bar *z*. The sleeper serves as a support for the cross-bar of the next section.

For railways in which extreme rapidity of construction is desirable, Messrs. Dolberg have patented a special hook joint, shown in Figs. 9 and 10. Each section is so

light, and the method of operation so simple, that only one man is required at a time for laying down the rails. An average of twelve sections per minute has been reached on uneven ground; and it is claimed by the inventors that 1,000 metres may be laid per hour by employing relays of men. The hook joint, of course, obviates the necessity for using any form of screw or fish-plate. For more or less permanent railways and for field purposes when the country is level, Messrs. Dolberg advocate the use of somewhat longer sections, varying between 3 and 5 metres.

The Dolberg portable railways include two systems of points or crossings—the automatic safety and the inclined plane points. For the former (Fig. 11) it is claimed that the derailment which frequently occurs at ordinary crossings is impossible; and the construction is so simple that repairs are rarely necessary. A car on the track A A (Fig. 11) approaching in the direction indicated by the arrow, would press the lever *h*¹ towards the left, thereby moving the second lever *h*¹¹¹, the connecting rod

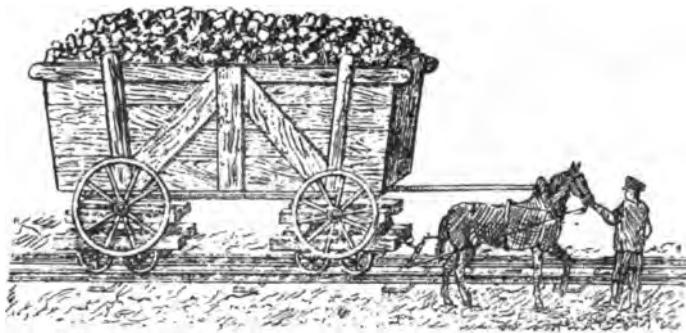


FIG. 18.

zz, and the sleeper *ss*, in such a manner, that the rails *ab*, *a*¹ *b*¹ form the continuation of the track A A, and allow the car to run over the metals C C.

The inclined plane is exceptionally well adapted for temporary field purposes. In its simplest form (Fig. 12), the plane E₁ E₁ E₂ E₃ lies with its sharply-pointed tongues E₁ E₃ on the main track A B, and the branch line C. The tongues form the plane over which the truck ascends from the main track on to the points. As may be seen from the drawing, this form of turn-off may be fixed in a few seconds to any portion of the railway. By this method a temporary passing-place may be formed when two trains meet on a single line, by providing the trucks of either train with a reserve section apiece. Only one inclined plane is necessary for this purpose, for after it has been used to run the train on to the passing-place, it may be taken up and employed for the return to the main line. In some cases, when the rolling stock is light, as for instance in the system under description, it would not be necessary to construct a passing-place when an empty and a laden train approach one another. The empty trucks

would simply be tilted off the line, and replaced when the freight train has passed.

For more or less permanent military railroads, Messrs. Dolberg have patented an inclined plane turn-

difficulty is usually met in filling in the gaps. The ordinary section never quite fits the interval, and much valuable time is lost in attempts to make good the deficiency. The difficulty is met in the Dolberg system

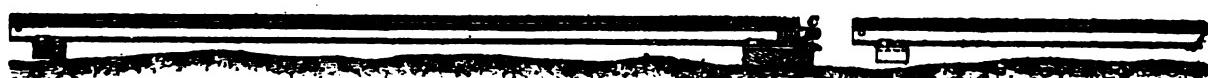
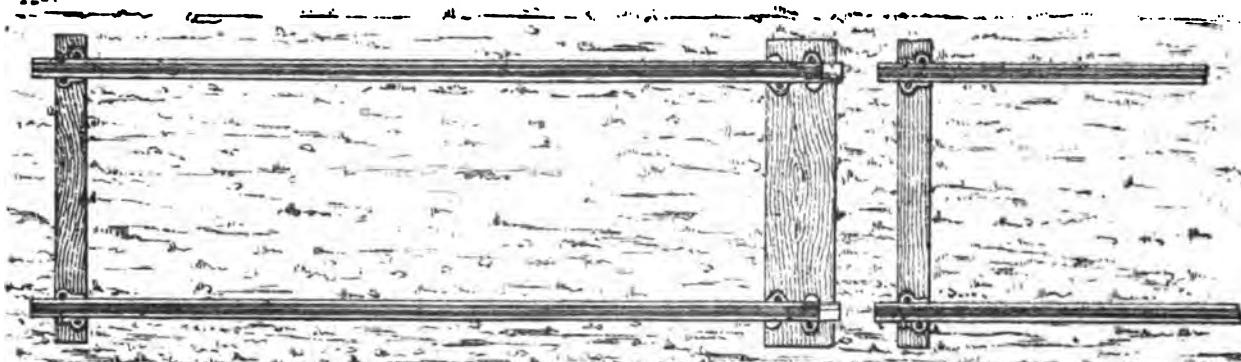


FIG. 19.

off, which does not require removal for the passage of a train on the main track. The bent plates b_1, b_2 are placed, as shown in Fig. 13 on the rails 1 and 2 of the per-

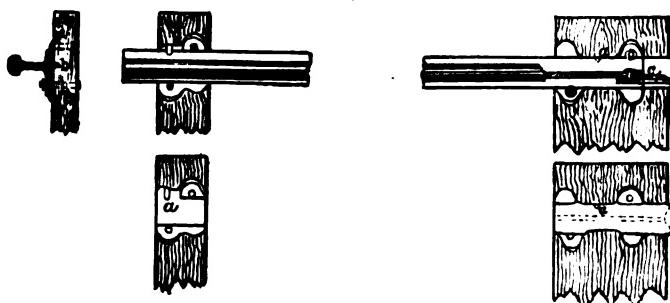


FIG. 20.

manent way. The tongues of the turn-off are provided with sharp ends, hollowed out on the under side to grip the rails when the system is in use. When traffic is

by the employment of the apparatus shown in Fig. 14. It consists of a framework R of angle iron, of which the opposite sides w fill the gap between the rails. In this manner a junction may be effected between two wholly different systems of railway, provided only that they have the same breadth of gauge.

The bogie shown in Fig. 15 has been designed by the inventors of the Dolberg railway to meet the requirements of all-round military transport. It is constructed to receive almost any description of superstructure, and for use either independently or in combination with other wagons. By affixing a suitable box, the bogie may be transformed into a tipping wagon; or two of these frameworks may be employed to support a platform P, as shown in Fig. 16. By the latter arrangement, as much material may be carried as by four ordinary wagons on a bad road. For the trans-

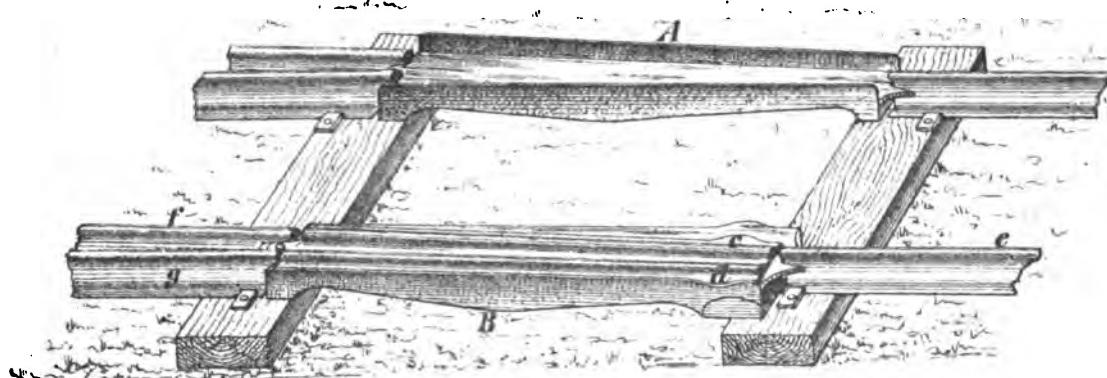


FIG. 21.

resumed on the main line, the tongues are detached from the metals and the flap x pushed back.

In extremely rapid construction, when the railway is laid down at several places simultaneously, considerable

port of unpressed hay, or other bulky material, the platform sketched in Fig. 17 is best adapted. When used for the carriage of railway material, it is calculated that 120 sections could be packed one above the other

with entire safety. This would represent, with sleepers of two metres in length, about 240 metres (260 yards) of railway, so that eight trucks of this kind would be more than sufficient for the transport of one mile of rails and sleepers.

When the haulage is done by horses, it is found that a pair is able to draw from three to five wagons. In this case a strong brake is necessary. Messrs. Dolberg have invented an exceedingly effective automatic apparatus, in which the brake is applied to each wagon by the mere pressure of the trucks behind. The pull of the horse on the level or up hill immediately disengages

two metres in length, composed of two rails and two sleepers. The section is so constructed, that at one extremity the rails extend 4 cm. beyond the sleeper, while at the other the sleeper projects the same distance beyond the rails. This space serves as a support for the next section. The construction of the railway is said to be so simple and rapid that two men, with the aid of a pair of horses, can lay down or take up 3,000 metres (nearly two miles) per diem. By employing a sufficient number of men, it is claimed that 1,000 metres could be laid down per hour.

The method of fixing the rails, shown in Figs. 19 and

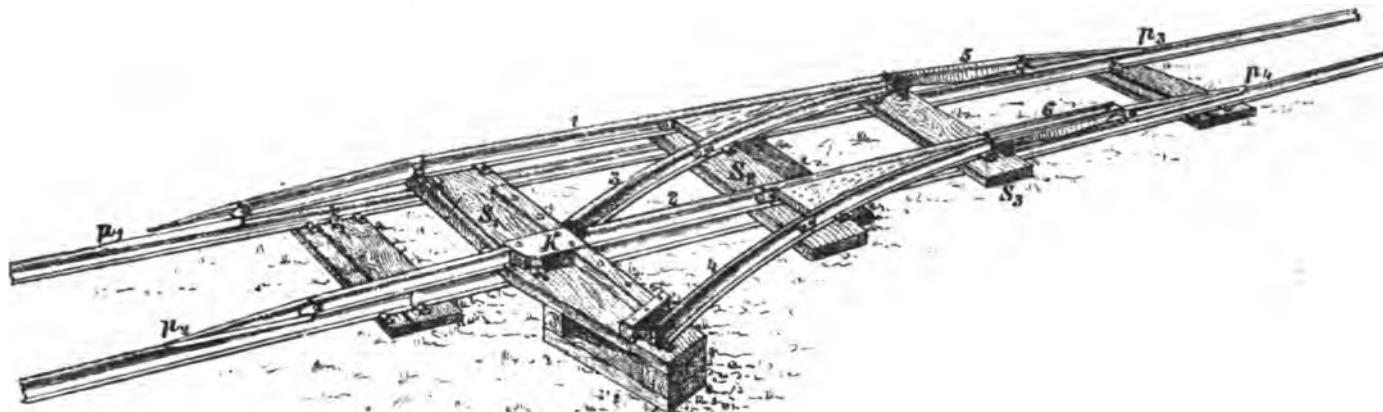


FIG. 22.

the brake, while on steep declines the animal is in no danger of being injured by the impetus of the train.

For war purposes, the possibility of placing large transport wagons on the railway as shown in Fig. 18 is of extreme importance. Two small four-wheeled bogies and a carriage-landing are the only requisites for mounting the wagons. For field use, the inventors of the Dolberg railway employ a portable carriage-landing consisting of two wooden platforms, the extremities of which form an inclined plane. The wagon is run up the incline on to the platforms, between which lies the track with the two bogies. The latter are specially fitted to receive the axle-trees of the wagon.

It is estimated that 500 metres of railway on the Dolberg system, with a gauge of 70 cm. and rails of 55 mm. in height (4·6 kg. per metre), would weigh about 8,000 kg. and cost £75. This is at the rate of £240 per mile. The cost of 35 wagons for the same distance would be about £400. Assuming that an army corps would require 150 miles of railway, the total cost, including rolling stock, would amount to about £96,000.

The Spalding System.

Herr Spalding claims for his railway that it may be laid down on the most uneven ground, and opened for traffic without any planishing of the soil. This result is only to be obtained by the use of short sections, and a carefully-devised joint. While Décauville employs sections of five metres in length, consisting of several sleepers, Spalding makes use of a section only

20 is designed to prevent shifting in any direction. The necessary rigidity is obtained by means of a toughened cast-iron ground-plate, which is let into the wooden sleeper by a groove *b*, and is firmly connected with the rail by means of a bolt *a*. The rail itself is secured to the sleeper by two clips passing over its lower flange. The groove *b* prevents any lateral, the bolt *a* any longitudinal movement of the rail. In this connection it is noteworthy that the rails may be detached from the sleeper by partially unscrewing the clips. This is of consider-

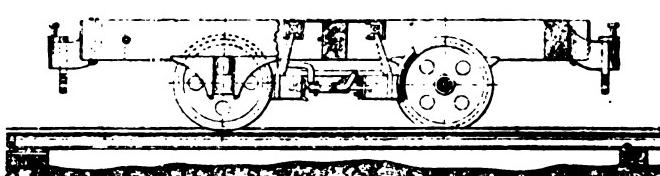


FIG. 23.

able importance in transport, as the sections may be taken to pieces for packing, and thus occupy a minimum of space.

For field purposes, Herr Spalding has invented two types of points, an automatic turn-off, and an automatic inclined plane. The former (Fig. 21) consists of two principal parts *A* and *B*. The double tongue moves in such a way that either *c* or *d* effect the junction with the rail *e*. The title "automatic" is derived from the fact that the tongues *c* and *d* are pushed into position by the engine wheel, and that by means of a spring one of the two tongues is always in contact

with *e*. There is, therefore, no chance of derailment, and the apparatus is stated to be absolutely dirt-proof.

The automatic inclined plane (Fig. 22) consists of the straight rails 1 and 2, superposed on the main track, the curved rails 3 and 4, and the parts 5 and 6 similar to those employed in the construction of the automatic turn-off. The rails are supported by the sleepers S_1 , S_2 , S_3 , and, when the points are in use, lie directly over the sleepers of the main track. The tongues p_1 , p_4 , sharp at the point, and hollow on the underside, are constructed on hinges to allow of a slight turning movement around the rails 1, 2, and the parts 5, 6. At the crossing *k*, the wheels of the trucks run on their flanges.

Herr Spalding has adopted for his system a gauge of 60 cm. (about 2 feet), which he considers the most serviceable for temporary field purposes. A broader gauge involves the use of a comparatively heavy rolling stock; while a narrower one enormously increases

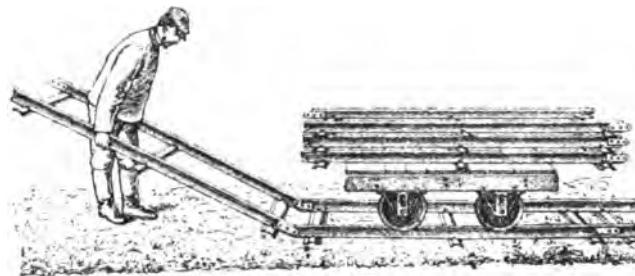


FIG. 24.

the number of wagons and trucks, owing to the limited carrying power of each. Both for permanent way and rolling stock, the inventor advocates the use of wood wherever this is possible. It is, he contends, at once more elastic, more durable, and more easily repaired than iron or steel. An injury to a wooden wagon or sleeper may be remedied on the spot; whereas iron and steel fittings can only be repaired in the factory.

Herr Landrath a D. Schulbarth, in commenting on the value of Spalding's system, observes that, whereas Décauville provides his *employés* with two large trucks of tools and reserve *materiel*, Spalding only provides a key for locking the screws.

Spalding's wagon, specially constructed for the portable railway, is shown in Fig. 23. The wooden frame of the truck rests upon gutta-percha supports, and the wheels are doubly flanged. A powerful brake is provided, capable of being used from either side of the wagon.

The weight of each section of the railway is 75 lbs.; and the rails, 5 feet 6 inches long between the supports, are able to bear a load of 4,400 lbs.

The cost of Spalding's railway does not materially differ from that of Dolberg's system.

The Haarmann System.

Herr Haarmann, in common with the inventors of all other portable railways, claims for his system the advantages of extreme lightness and portability combined with great stability, a simple and effective rail-joint and adaptability to inequalities of ground. The rails used in the construction of the Haarmann section are constructed on the Vignole system, in three sizes, weighing respectively 4, 5, 8, and 7·5 kilogrammes per metre (8, 11·6, and 15 lbs. per yard). The corresponding sleepers, which are of steel, weigh 3, 4, and 9 kilogrammes respectively per metre (6, 8, and 18 lbs. per yard). The rails are joined to the sleepers by means of nuts and bolts, or by holdfast screws.



FIG. 25.

For railways in which extreme portability is required, the sections of this system are constructed in lengths of 2 metres, weighing 85 kilogrammes (77 lbs.), and capable, therefore, of being carried by one man. The rail-joint does not differ widely from that of Décauville. It consists of two projecting tongues by which the stem of the next rail is gripped; but the plate underneath the rail, upon which Décauville relies for support and solidity, is here dispensed with. An alternative method is to provide the projecting tongues with a cross-bar which engages in a hook-shaped aperture in the body of the next rail. The rails are laid down, as shown in Fig. 24, by the aid of a bogie. No other apparatus is required.

For railways of a more permanent type, sections 5 metres long, weighing 80 kilogrammes (176 lbs.) are constructed. These necessarily require two men for transport and fixing (Fig. 25).

A special form of section is supplied when a curve is required. Eight of these are sufficient for a curve of 90 degrees.

(To be continued.)

A NEW AMERICAN PROJECTILE.



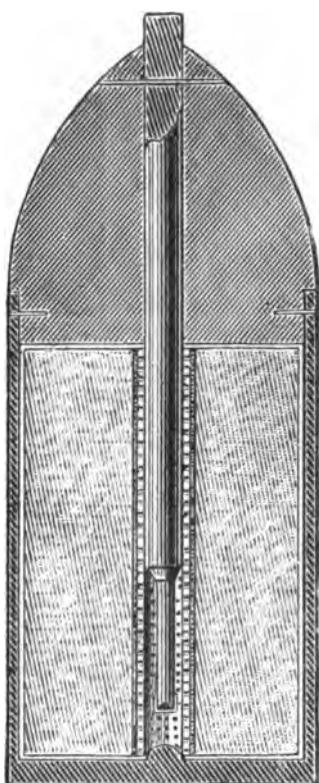
YNAMITE has recently been the subject of numerous experiments in both Europe and America, and this explosive will undoubtedly have a high place among the necessary materials for carrying on the wars of the future.

Mr. J. McCreary of Webberside, Mich., fully convinced of the great value of high explosives for military purposes, has been experimenting with

patented, embodying principles interesting to gunners in every part of the world.

The shell or cylindrical part of the projectile is made of steel, and is attached to the head by rivets or screws. The head has a central opening through which the firing pin extends, and which is held in position by means of a pin near the point of the head, as shown. The firing-pin passes down through a perforated tube of pasteboard, and, at its lower end, which is reduced in size, is a percussion cap. Around the whole length of the central perforated pasteboard tube is a layer of coarse gunpowder enclosed in sheets of tissue paper. The main part of the interior of the shell is filled with dynamite which is kept from contact with the gunpowder and the firing-pin by the tissue paper.

The inventor claims that a shell made after this system is safe to handle, there being no danger of a premature explosion, as is the case with shells that are exploded by means of electric apparatus or clock work. The firing-pin being held in place by means of a small rivet case, explodes only at the time the shell strikes, which is the best time to inflict the maximum damage on forts or armoured ships. Since the cap of the firing-pin is exploded by striking against the bottom of the shell, and the gunpowder ignited first at that point, the dynamite is so fired that almost all its force is directed forward, and thus its destructive powers are considerably increased. By the use of dynamite of comparatively low power, (so as to render it safe for light field-artillery) a few batteries of guns could make woods more dangerous than an open plain, for any shell that could be fired from a 6-lb. field-piece would be sufficiently large to tear the top of a large tree into fragments, and rout out everybody in the vicinity. This projectile can be made of large or small size, so that it can be fired from guns of any calibre with safety. The inventor claims that even with dynamite of low power, no armoured vessel in the world could withstand the destructive effects of one of these shells fired from any of the large guns in common use.



THE MCCREA DYNAMITE SHELL.

dynamite, and our diagram shows a new system of construction for shells which the inventor has recently

INVENTIONS APPLICABLE TO THE SERVICES.

AMERICAN WOVEN CARTRIDGE BELT.



ON the introduction of metallic ammunition comparatively non-perishable and indestructible, Mr. Mills, an American inventor, conceiving the idea that the almost cylindrical form of the stem of the cartridge with the projecting flange on its head had rendered it possible to make a belt with closely-fitting cylindrical loops, the cartridge to be held in its place by friction and prevented from dropping through by the flange, equipped his company first with belts made of leather; but after several years of trial these did not prove entirely satisfactory, by reason of the acid in the leather in action with the copper in the shell producing a verdigris, and causing the shells to stick fast in the belts. Canvas and webbing were then substituted, which proved more satisfactory, although it was very difficult to make the loops of uniform size or avoid their ripping off in use. The American Army of the frontier gradually provided themselves with belts of this character of their own make, and their use became almost universal by others using firearms.

But even this improvement failed to give satisfaction for the reason that it was impossible to make the loops by sewing, of a uniform size, or perfectly cylindrical, or so well as to prevent ripping in service, causing loss of cartridges from the larger loops, the admission of dust, dirt, sleet and frost in the cavities caused by the loops not conforming exactly to the cylindrical form of the shell.

The inventor then set about devising a method for weaving the main band and loops of the belt together.

This he at length accomplished, and in its main features it is not unlike what has been for a long time known as the "Prairie Belt," its distinguishing characteristic being that it is not only made entirely of heavy cotton fabric, but that the whole belt—the main fabric or body of the belt, as well as the loops or thimbles which hold the cartridges—are woven in one solid piece, at one and the same time, in the same loom, there being no sewing whatever in the entire belt.

The cylindrical loops are taken from and returned to the main web at the same point, so the cartridge is held in place by friction produced by contact with its whole circumference; the loops are also, as a rule, made long enough to cover the entire brass stem of the shell and about one-sixteenth of an inch of their protruding leaden

bullets, in order to prevent the accumulation of fine sand or other hard substances in the joint between the lead and brass, which is the more likely to adhere in warm climates from the usual exuding of the lubricant, thus causing the shell to gum and fail to extract, and perhaps injuring the rifling of the gun barrel. The cartridges



FIG. 1.

come from the belt after long use in as good condition as when leaving the factory, thus overcoming entirely the objections and difficulties described in detail by General McCook, in his testimony before the United States Court of Claims.

The main fabric or web of this belt is a heavy double

one, bound together with a small portion of the warp, called by weavers "binders," the fabric being similar to what is known as "back-banding," producing, when the binders are not used, a hollow or tubular fabric like that used for making hydraulic hose; for one-fourth of an inch on each selvage these binders are left out, and the cavity filled with extra threads, producing a corded selvage, the upper one serving to rest over the flange of the head of the cartridge, and prevent falling out.

Among the superior practical qualities of the Woven Cartridge Belt over all other known methods for carrying ammunition, the inventor claims the easy access, the ready inspection, the instant detection of loss or exhaustion, the expressive martial purpose at sight (important

For military service, two sizes are made, one with forty-five loops, occupying twenty-eight inches on the belt, the other with fifty loops, occupying thirty-one inches, with billets six inches long at each end.

The illustration of the soldier (Fig. 1) represents the inventor's idea of the best method of wearing the belt. Ordinarily but one belt should be worn, and that around the body, as in the figure.

In cases of extraordinary emergency, the soldier may carry two belts, one around the body and one over the shoulder; but these extra belts will be habitually folded and packed, filled with cartridges, in strong canvas bags or boxes, and transported in wagons or on pack mules, and only issued to the men on the eve of battle or



FIG. 2.

in the suppression of riots), the great ease with which they are carried, fitting closely to the shoulder, and being so widely and equally distributed as to lead the soldier almost to feel that they are a part of his person; the economy in weight and expense, the cost and weight being little or no more than the belt to which the box, pouches, etc., of other methods are attached. It is soft, pliable, and homogeneous in texture with the soldier's clothing and other accoutrements, and to anyone whose judgment is not biassed with that fixedness of ideas which comes from association with long continuous custom, it is more attractive, neater, and gives the wearer a more soldierly appearance than the box or pouch.

other emergency, which, having passed, they may be returned for transportation to the wagons or mules.

Fig. 2 represents the belt as manufactured for the Lee magazine rifles, with which the Remingtons equipped the army of Honduras and which now are used in the U. S. Navy. It has thirty loops for single cartridges, and four for the magazine, and of course can be made to vary in the number of either.

The National Guards of the different States are fast adopting this belt, and they are being furnished by the U. S. Ordnance Department on requisitions from their annual quotas so far as they go.

Fig. 3 represents the Cavalry Belt, with pistol and sabre slings attached.

Fig. 4 represents the Double Belt adopted by the United States Navy.

It was devised by Commander William M. Folger, U. S. Navy, under the direction of Commodore Montgomery Sicard, U. S. Navy, Chief of Board of Ordnance.

Major-General McCook, U.S.A. Aide-de-Camp to

and never feel it. Soldiers, when they are labouring, opening a road, cutting trees, and breaking boulders in the road, will not take them off, or even when using sledge-hammers, because they do not feel the weight. As a personal illustration of that, I will state that I was opening a road once from Fort McKavett to Fort Clark,



FIG. 3.

General Sherman bears the following testimony to the value of Mr. Mills's invention :—

"It is a very important thing that cartridges should be protected from dust, particularly the metallic cartridges, because if the dust gets in there they catch, and the ejector of the breech-block will not throw them out. But all the reports from the frontier are that the soldiers discard the Palmer yoke, and also all cartridge-boxes, and use the hunter's belt, and when they cannot get them from the Ordnance Department, they make them out of canvas or anything they can get hold of, and carry their cartridges in that way. It is astonishing with what ease a man can carry forty rounds of ammunition in a hunter's belt. He can wear the belt all day

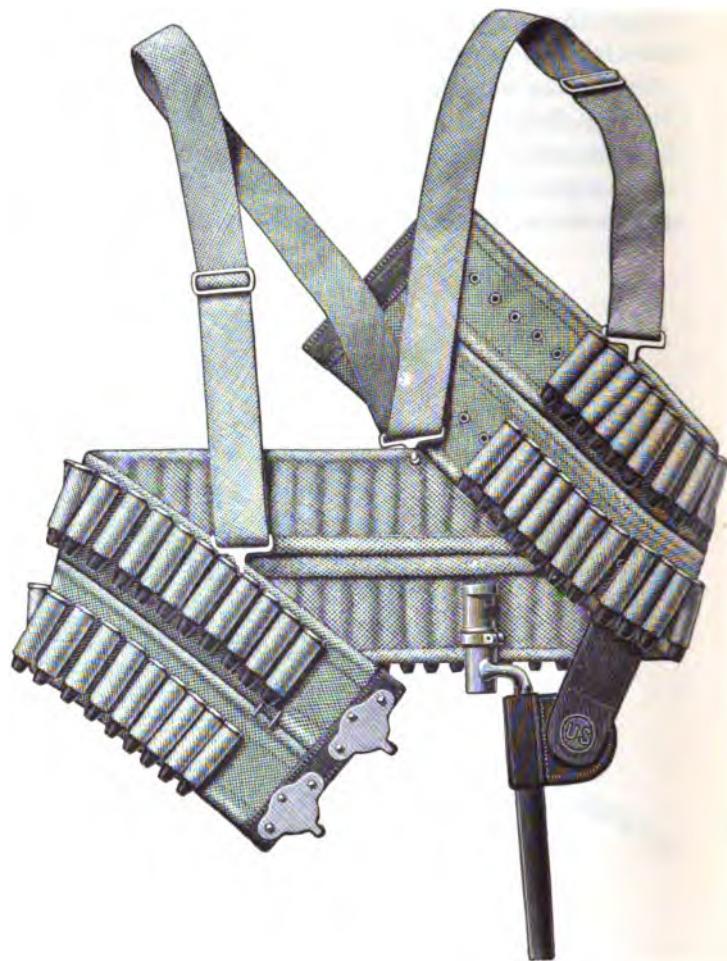


FIG. 4.

Texas, and when we struck the North Fork of the Nueces River, we found boulders four or five feet high at a place where we were obliged to cross. I took a detachment forward with sledge-hammers to break those boulders down, and I asked the men when they went to work why they did not take their hunter's belts off, but they asked permission to wear them, because they were of no inconvenience to them, and they would rather wear them than do without them."



EDITORIAL.

THE DECADENCE OF THE MILITIA.

THE constitutional force of Old England is admittedly in a very unsatisfactory state; neglected, uncared-for, and left to take its chance on the unhappy-go-unlucky principle of "go-as-you-please." The leading military authorities of the day, from H.R.H. the Duke of Cambridge downwards, recognize the importance of the Militia, and fain would make its status better defined in relation to the army. Of late years the Militia battalions have been printed in parallel columns with their territorial regiments in the official monthly Army List; officers have been allowed to wear gold in place of silver lace at their own expense; but beyond these trivialities no serious steps have been taken to make the Militia part and parcel of the British army. In addition to our regular troops we have, in this country, a swarm of auxiliaries, Militia, Yeomanry and Volunteers, who are out of "touch" with themselves, each other, and the army, and are simply a fortuitous combination of military atoms waiting to be welded together into one homogeneous whole.

The writer, or writers, in the *Broad Arrow* point out, in relation to the Militia reserve, that a large sum might be saved by a reduction in the amount and frequency of bounties, which now are merely so many premiums on drunkenness. It does not seem to be realised that without the Militia the country would be forced to adopt Conscription to man the army. At present it is not really recognized how cheap the Militia force is. The establishment of the Militia in time of peace is 120,000 men, of which it may be assumed that 20,000 are deficient. The Militia reserve, however, is one fourth of the whole establishment, not of the actual strength. Thus 30,000 militiamen can be called to the army on short notice if required. This leaves 70,000 men only available for defence service in garrisoning the kingdom, and for sending a contingent to the Mediterranean, and to other parts of our Colonies and Dependencies.

In the event of a serious war, no doubt, we should wish to be able to release our entire regular army from home duties, and leave it to the constitutional force of the country to defend our homes from invasion, to garrison our important ports, and maintain the English power in Ireland. To effect the last-named object no less than 18,000 men would be required, a drain which could be met by moving the Irish militia regiments to England and Scotland. It is, then, the bounden duty of the Government to do all it can to increase the efficiency of the Militia, even though the estimates may be exceeded of the £570,000 at present voted.

The writer in the *Broad Arrow* feels strongly on the subject of bounties, and believes that a considerable reduction might be made in the re-engagement bounties without causing any loss in men. Re-engagements,

according to his view, should be for six years in place of four, and while the annual bounty of a re-engaged man should remain £1 10s. as at present, yet the bounties on re-engagement should be reduced to £1 per head. By causing all engagements to be for six years duration, a very large sum would be saved. It is difficult, of course, to fix upon any amount, as it is impossible to say how many men re-engage in a lifetime; but were every man in the militia to enlist at seventeen years of age, and to re-engage as often as he could, he would, under the present system, receive £9 in re-engagement bounties; whereas were re-engagements for six years at the proposed rate, he would get but £4. £5 per man would be saved in twenty years, or £500,000—showing an annual saving of £25,000. Our contemporary's figures are beyond cavil; but we much doubt, were the bounty reduced, that we should attract the men we require.

As to the efficiency of the Militia, most military men will coincide with the views taken by the *Broad Arrow*.

It is, of course, agreed that a soldier is trained only with the ulterior view of enabling him to bring his rifle to bear with the best effect; therefore musketry is the most important item of his education [at least it should be!]; for should he not be able to shoot, he is an incumbrance and useless. So the writer in the *Broad Arrow* proposes (very sensibly in our opinion) that every third year a Militia regiment should be called up for three weeks only, these three weeks being given up entirely to musketry, during which time the militiaman could be thoroughly trained in the use of his rifle, and in all the different practices laid down in the musketry regulations, to the complete exclusion of parades, show marches and battalion drills; the inspection at the end of this training to be in musketry only.

The other trainings he would increase to six weeks, and the saving (?) effected in the musketry year would help to pay for the extra expense of the other years. Here, we opine, the *Broad Arrow* writer is at fault. During the "three weeks of musketry," much ammunition would be expended. At present, the cost of cartridges for a Militia annual course is small. Some regiments do not fire a shot, and many practice only in the 3rd class. All the same, we welcome this addition to the military literature of the day, and say confidently that all who have at heart the welfare of the Militia should read and study the excellent *brochure* issued by the *Broad Arrow*.

THE GERMAN LANDWEHR.

THE effect of General Boulanger's abortive Army Bill has been more far-reaching than might at first sight be supposed. It undoubtedly provoked the introduction of the German Septennate last year; and to

that measure the changes now under discussion are the natural if not inevitable supplement. The respective fate of the French and German schemes of reorganization is curiously illustrative of the difference between the military system of the two countries. While General Boulanger's scheme is still in the air, that of Prince Bismarck and his colleagues is now in full operation; and judging from the tone of the German press, the new measures appear to be almost certain of acceptance.

The new Bill provides that all German citizens, fit for service, shall be liable to be called upon until the completion of their forty-fifth year. In the ordinary course, the recruit will serve three years with the Colours (from 20 to 23 years of age), 4 years in the Reserve, 5 years in the first levy of the Landwehr, 7 years in the second levy of the Landwehr, and 6 years in the second levy of the Landsturm. Those who, for family or other reasons, are excused from active service in time of peace, will still be liable in the event of war until their 45th year. From 20 to 32 years of age they will belong to the "recruiting reserve," from 32 to 39 to the second levy of the Landwehr, and from 39 to 45 to the Landsturm. All these men receive a certain amount of military training during their term of service in the "recruiting reserve." Others again are drafted *ab initio* into the Landsturm, serving in the first levy from 20 to 39, and in the second from 39 to 45 years of age.

The fundamental change involved by the passage of the new Bill will consist in the extension of the term of service for the Landwehr to the thirty-ninth year. At present all men belonging to this category pass into the Landsturm on attaining the age of 32. Men who would now be drafted into the Landsturm will be liable under the provisions of the new measure for seven years' further service in the Landwehr. A large pro-

portion of the Landsturm or third line of the German army will, therefore, be transferred into the Landwehr or second line—from a more or less inchoate and unwieldy to an extremely well-organized and available force. It is estimated that by this means the Landwehr will be increased by about 700,000 men, of whom a considerable percentage have served the normal term with the colours, while all have received some military training.

The transference of 700,000 men from the Landsturm to the Landwehr implies an increase of the field army at the expense of the purely defensive forces, and indicates that Germany is resolved to assume an energetic offensive in the event of war. While the available field army of Russia comprises only 15 annual contingents of recruits, and that of France only 14, Germany will be able to mobilize 19.

It is estimated that in the course of a few years, making every allowance for loss by death, desertion and otherwise, the German army will comprise not less than 4,700,000 trained men, of whom 3,250,000 will have served two years with the colours. At the present time, the paper strength of the French army is equal if not superior to that of Germany; but the disproportion between even the nominal effectives of the two countries must increase rapidly year by year in favour of Germany. The number of men who annually become liable for service in France is now about 300,000, and has a constant tendency to diminish. In Germany it amounts to over 400,000, and, if the present rate of increase is maintained, will soon reach half a million. The only chance for France lies in thoroughly organizing, and, above all, disciplining the men she has. Her efforts to keep pace with the numerical increase of the German army are, from the nature of the case, hopeless.

EDITOR.



"THE HAVERSACK."



N the question of "The Rifle Regiments," a correspondent writes:—

"The old 60th, after an existence of 181 years, is not called upon to make any reply to the inventions of 'A Staff Officer,' regarding its origin.

Let it suffice to say that, even if his deductions were correct, its position as the Senior Rifle Corps would not be in the least affected; the status of the regiment having been always sufficiently defined by its number, and by its place in the Army List.

"There are, however, certain statements in the articles on Rifle Regiments in the November and December numbers of the *Illustrated Naval and Military Magazine*, which invite criticism and sometimes contradiction.

"In the first place, we hold 'the essence of the question' to be this. Did the first regular rifle battalion in the British army belong to the 60th or to the Rifle Brigade? There can only be but one answer to this question, as the 5th (or Rifle) battalion of the 60th was raised in 1797, and the Rifle Brigade in 1800. However, we shall have no objection presently to tackle 'a Staff Officer' on his own ground. That writer has no hesitation in claiming connection on the part of the Rifle Brigade with 'an experimental corps of riflemen,' an idea much more far-fetched than that regarding the relationship of the 1st and 5th Battalions 60th, and which, if established, would of necessity antedate the recognized birthday of the Rifle Brigade from 25th August to April.

"Whether the men of the 60th were English or German, or both, is of no consequence, the regiment belonged to the British Line, and Sir George Prevost's letter evidently had a meaning exactly the reverse to that which 'a Staff Officer' attributes to it.

"The 60th Regiment was never called 'Royal American Colonials,' though there certainly was a corps of 'Royal (or loyal, we forget which) American Provincials,' which had, however, no more to do with the 60th than the man in the moon.

"'A Staff Officer' quotes (p. 323) certain writers of the early part of the century to prove that the 95th was the 'only Rifle Corps.' Who are they? The first is anonymous, the second a corporal of his own regiment (1808), and the third a private of the 92nd (1808). But the extracts only show that these persons, as from their positions we might imagine, were not particularly well informed.

"One affirmative witness is better than a host of negative ones, therefore let us see what is said in the description given of Atkinson's drawing called 'Riflemen' published January 1st, 1806, and consequently referring to 1805. 'It was not till of very late years, and with apparent reluctance, that corps of riflemen (note the plural number) were permitted to make a part of the British establishment; but are now furnished with appropriate clothing and equipment.' We are aware that some copies of Atkinson's work have this plate coloured like the Rifle Brigade, probably to suit customers, but an uncoloured copy which lies before us shows the lighter facings and edgings to the skirts, and also the stripe on the trousers which the Rifle Brigade never had.

"Again 'a Staff Officer' says (p. 402), 'in no document, public or private, to which we have had access, can we find any acknowledgment that the 5th Battalion 60th were designated riflemen. On the contrary, all the authors who allude to the regiment ignore the existence of any corps of riflemen except the 95th or Rifle Brigade.' The writer's resources were certainly not extensive. If the instance we have just given is insufficient, here is another. We have before us Colonel Hamilton Smith's book of *Costumes of the British Army*, where we find a plate published May 1st, 1813, entitled 'British Riflemen, 60th Regiment, 95th Regiment,' and as Colonel Hamilton Smith was Deputy-Assistant Quartermaster-General at head-quarters, his authority is unquestionable. If these facts are looked at in connection with the paragraphs at bottom of page 321 and top of 322, in addition to the pages above mentioned (323 and 402) they will be found rather subversive of 'a Staff Officer's' argument.

"A few words as to dress. 'A Staff Officer' has the curious fancy that the 60th did not enjoy all the 'privileges of riflemen,' because they wore blue pantaloons. But what is the natural inference to be drawn from the fact itself? Why, that the original rifle dress consisted of a green coat and blue pants, and that all green was a more modern idea.

"Why does 'a Staff Officer' say (p. 399) that the 60th were not granted the 'red sash and pelisse till December 25, 1826,' and quote the dress regulations of that date as his authority? The book in question says nothing of the kind; it merely records the dress of the Rifle Regiments of that time, just as the present edition lays down the pattern of the tunic which has been worn for thirty odd years.

"In looking over the sketches in your magazine, we find the rank and file of the Rifle Brigade generally described as being clothed in *jackets*, while the 60th are in *green coats with tails*, as if the absence of tails was essential to a true riflemen. As a matter of fact, though most of the drawings are carefully executed to conceal the appendage, the Rifle Brigade always had tails; indeed, the principal difference between the coats of the two corps before the introduction of the tunic, was that the tails of that regiment were twice as long as those of the 60th; there is plenty of authority to bear out these statements. Too much reliance must not be placed on these drawings, many of which are taken from Cope and Wallace, the latter being, if possible, of rather worse execution than the former; some errors, however, must be attributed to your correspondent. The sketches of the 60th, on pages 326 and 327 are incorrect, as the bearskin cap for grenadiers was not introduced till a later date. That on page 461 is wrong in several particulars—coat, pants, and chaco, as is also that of the Rifle Brigade on page 404 as regards the chaco. That article in the plate on page 405 is also incorrect, the original drawing (which is so far correctly given in Wallace), having a 1 (one) under the bugle, and the

trousers are dark blue (with a tinge of claret) instead of grey, as stated. This rifleman must have belonged to the rifle companies of the old 1st Battalion of an earlier date than that given.* We should like to see the originals of the drawings on pages 399 and 402.

"We might go on pointing out errors in 'a Staff Officer's' *facts and conclusions*, but we have said enough for our purpose. Of what use is the discussion which he has raised? He wishes your readers to believe that the 60th have lately made some new claim to seniority. Nothing of the sort; the two regiments know and honour each other too well to enter on a paltry dispute, which, as a matter of fact, was confined to the writer of the articles and an ex-major of the 60th. Why try and stir up strife? What good has been done? 'A Staff Officer' may probably have unsettled the ideas of some of his brother officers of the Rifle Brigade, while he has certainly not shaken the settled convictions of a single 60th Rifleman.

"We must decline to view the result of his researches as 'a mere matter of ancient history.'"

CELER ET AUDAX.

* This requires investigation, for which we have not at present had time.

NAVAL AND MILITARY NOTES AND QUERIES.

THE FIRST PRINCE OF ORANGE.—William, the first Prince of Orange, among the first to assert the independence of the Netherlands, which he heroically maintained, is thus described by Schiller: "William of Orange was one of those lean and pale men who, according to Cæsar, 'sleep not at night, and think too much,' and before whom many spirits quail. The calm tranquillity of a never-varying countenance concealed a busy, ardent soul, which never ruffled even the veil behind which it worked, and was alike inaccessible to artifice and to love; a versatile, formidable, indefatigable mind, soft and ductile enough to be instantaneously moulded into all forms, guarded enough to lose itself in none, and strong enough to endure every vicissitude of fortune. A greater master in reading and winning men's hearts never existed than William."

ACTS OF HOSTILITY are proceedings of a diplomatic, commercial, or military character, involving a state of war between two or more nations. This was exemplified in 1870 in the altercation between Count Benedetti, the French Ambassador, at the Court of Berlin, and the King of Prussia at the Kursaal of Ems. This is an instance of the first-named act of hostility. The second is shown in the case of the embargo laid on British shipping by the first Napoleon after the Peace of Amiens in 1803. The third consists in the invasion of a friendly territory, or firing on armed vessels of a friendly nation. A further act of hostility of a civil character is the forcible detention of the subjects of a friendly nation, which was exemplified in the seizing of non-belligerent British residing in France in 1803.

R. O'BRYNE.

REVIEWS.

Neo-Hellenic Manual; comprising Practical Rules for Learning the Language, Vocabulary, Dialogue, Letters, Idioms, &c., in English and Neo-Hellenic. By the Rev. ANTON TIEN, Ph.D., M.R.A.S., &c. (London : W. H. Allen & Co., 1887).

The great development of the resources of Cyprus, and the prosperity which has smiled upon the island since it passed under English control, make it impossible to imagine that it will ever pass out of our hands. Political carping has been silenced by success ; increased advantages have brought the whole of the inhabitants on the side of their new rulers ; and the conversion of barren responsibility into a substantial and regularly paid revenue has more than contented the Sultan. Under such happy circumstances, the permanence of present arrangements may be anticipated, and hence arises the necessity for the English to make themselves thoroughly at home on the island. The first essential is certainly familiarity with the language. The officers, soldiers, and sailors occupying and guarding the place ; the merchants, traders, and artizans engaged in its commerce and works ; and Government officials of all grades should make themselves masters of Modern Greek in order to discharge their duties properly. The wide diffusion of Neo-Hellenic over the Levant, and the commercial activity of the Greek people, render it surprizing that efforts have not long ago been made to facilitate its acquisition by Western people. Dr. Tien has now produced a really satisfactory book, which is both simple and complete. The years which the author spent among speakers of Greek makes him an authority on matters of idiom (the chief difficulty in all spoken languages), and his command of the language appears conspicuously in his book. Besides the information which such a book usually contains, he gives a series of sentences illustrating the uses of the different tenses of the verb. This is singularly beneficial to the learner ; for not only does it give living force to mere verbal paradigms, but it enables the student to refresh his memory by referring to the place where each subject is fully dealt with. The book contains Dialogues, Exercises, Model Letters, Proverbs, and a good Vocabulary, besides the Grammar. There can be no doubt that Dr. Tien's is a valuable book, and will be of the greatest use to officers who may be chosen for service in Cyprus, Turkey, Syria, and Northern Egypt.

Decisive Battles since Waterloo. The Most Important Military Events from 1815 to 1887. By THOMAS W. KNOX. Illustrated. (New York and London : G. P. Putnam & Sons).

In the selection of the twenty-five decisive battles described, commencing with the battle of Ayacusho, 1824, and terminating with the fall of Khartoum, 1885, the author has endeavoured to present them in a similar

form to *The Fifteen Decisive Battles of the World from Marathon to Waterloo* by Professor Creasy. In the preface the author says that it is unlikely that any unanimity of opinion could be found among historical students of the present day in the selection of the decisive battles since 1815. The author's reasons for his selections will be found at the end of the chapter wherein each battle is described. The battles here narrated not only possess an interest for the student of military tactics and strategy, but, written as they are with all the charm of a romance, they will be largely read by the general reader. Mr. Knox's experience of marshalling forth facts in an attractive style, is seen here to great advantage ; and with the aid of the excellent maps given with each battle, the military student will find the work a veritable *vade mecum*.

Sandringham Past and Present. With Twelve Illustrations of the Neighbourhood. By MRS. HERBERT JONES.

SANDRINGHAM LIBRARY.—That Little Girl; a Novel, by CURTIS YORKE. (London : Jarrold & Sons, Paternoster Buildings).

The particulars given of the present aspect and past history of Sandringham, cannot fail to interest a wide circle of readers beyond those residing in Norfolk. The account of the Norfolk residence of the Prince of Wales, is well written, and unmistakably shows his Royal Highness to be an excellent landlord, and to have the welfare and interest of its inhabitants at heart by the cottages and farm premises he has erected, and the interest he takes in their physical and mental condition. The several chapters tracing the history of Sandringham from the reign of Henry VII., display both scholarship and research ; and in the last chapter "The Countess d'Orsay," Mrs. Herbert Jones has, with much dramatic skill, written a story with singular force and effect that cannot fail to interest the reader. The illustrations are very well done, and form a pleasing addition to a very charmingly-written book about Sandringham.

That Little Girl is a most interesting novel, and will command a large circle of readers. It is thoroughly English and totally devoid of those French artificialities which render many novels of the present day unfit for the family circle, and which unquestionably would not be admitted into a series bearing the title of the "Sandringham Library."

Bundobast and Khabar.—Reminiscences of India. By COLONEL CUTHBERT LARKING. Illustrated from original drawings by the Author. (London : Hurst & Blackett, Limited.)

This is a very pleasant book of travel, and, without pretending to afford fresh information about India, its

people and customs, it will be found to contain a great deal of matter in connection with Sport, that will be valuable to those who contemplate spending a season in India. While the reminiscences so happily described will recall to the retired Anglo-Indian many agreeable days passed in Bombay and its neighbourhood, Hyderabad, and elsewhere. Colonel Larking left England on the 4th of November 1886 and was back again in London on the 11th of June 1887. He was thus enabled to enjoy all the varieties of sport that India affords, ranging, among the feathered tribes, from teal to peacock ; among big game, from panther and bear to tiger, not omitting black-buck hunting with cheetah.

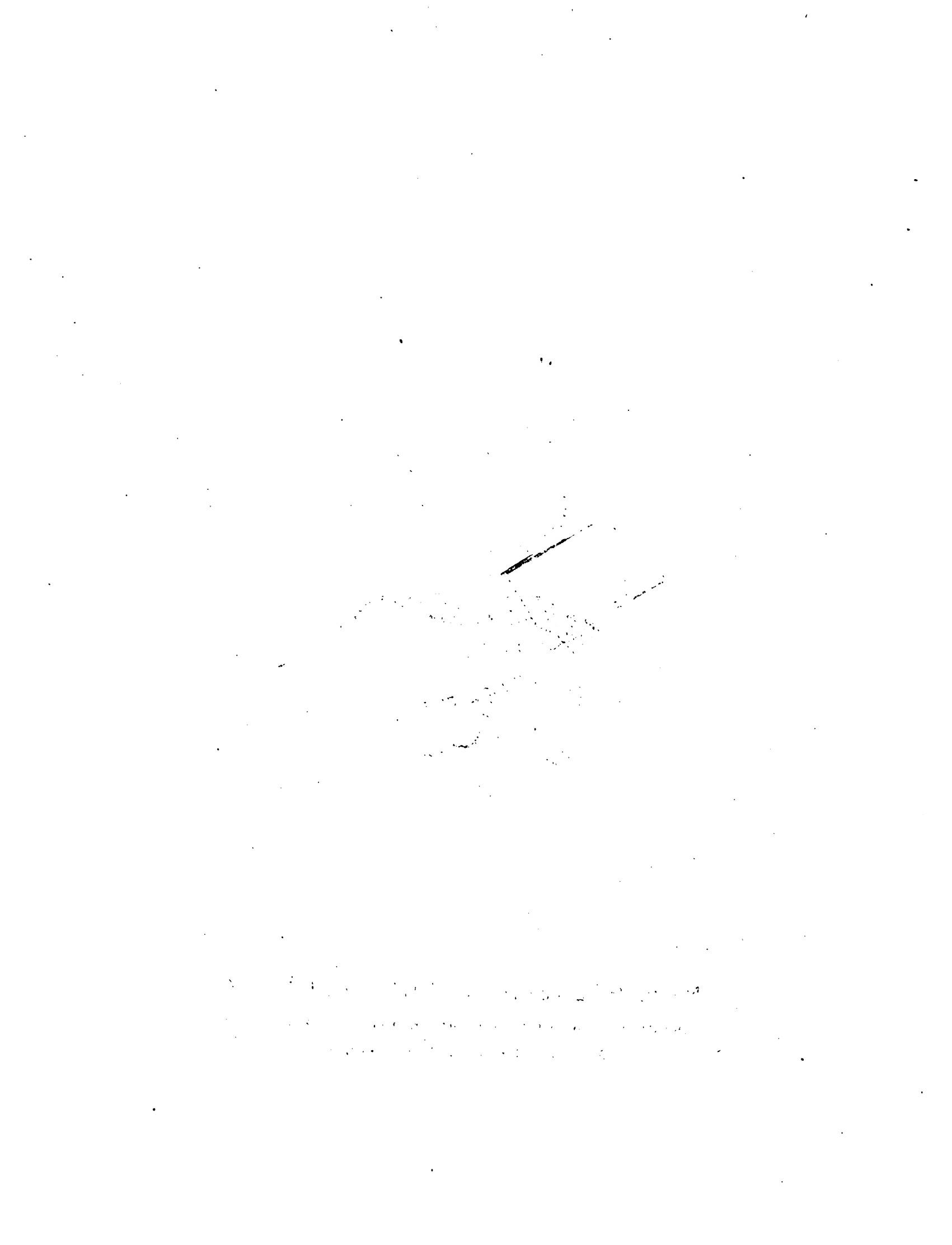
Colonel Larking is a very keen observer and sportsman, and each chapter will be found to contain some anecdote or narrative of interest. Professor Monier Williams' account of the Parsee Towers of Silence is most interesting. There is a capital description of Benares, including the story of how Mr. Davis defended the Maddersai Khoti against Vizier Ali (1799). It is, however, on the line of march and in camp that the author is seen at his best. Possessing a good knowledge of natural history and plants, and being an artist as well, his writings and descriptions possess a life-like character. Here is an account of his first shooting-camp. "It was pitched on either side of a dry nullah whose banks were covered with bamboo clumps and various shrubs. The Nawab and his friends were on the left, whilst our three tents were on the right bank ; and in the dry bed of the river, which becomes a swift and dangerous stream during the rains, we had our kitchen, stables, and servants' quarters. Our tents were shaded

by two large mewah-trees,* then covered with a mass of sweet-smelling flowers, and the ground was strewed with their fallen blossoms . . . Bears are particularly fond of the mewah flower, and are nearly always to be found in their neighbourhood. They are also a favourite food of birds, and always at daybreak and sunset flights of beautiful green pigeons, and little crimson-headed paralettes pay them a visit, and, having feasted, fly off again. The jungle close by was very thick, and had many fine trees, while the bushes and shrubs were of all varieties ; clumps of bamboos, waving their graceful tops in the trees, adding, as they do everywhere in India, to the charms of the landscape. The horses were tethered in the nullah behind us ; the elephants and camels formed a little camp of their own, whilst the bullock-bandies made a zereba at the back of us. Altogether, with these and the numerous groups of camp-followers round their fires, busy cooking rice, the scene was very picturesque."

That these reminiscences of India will be largely read there can be no doubt. The reader is from the first carried away by the agreeable style of the author, whose information on every kind of sport in India may be fully relied upon ; while his several accounts of tiger shooting—especially the one where five tigers were bagged in one day—will be read with much interest. The illustrations add very much to the value of *Bando-bast and Khabar*—the former meaning “arrangement,” the latter “news”—the two essentials to be strictly observed by those who aspire to become Shikaris.

* Mewah is the Hindostani word for fruit, but I found that the natives always called this particular tree by that name.







CLEMENT-SMITH & CO LTD LONDON & NEW YORK 1904

MAJOR-GENERAL W. KNOX LEET. V.C.

**AS COLONEL OF THE 2ND BATTALION, THE PRINCE ALBERT'S
(SOMERSETSHIRE LIGHT INFANTRY)**

THE
ILLUSTRATED
Naval and Military Magazine.

No. 45.

MARCH 1st, 1888.

VOL. VIII.

MILITARY BIOGRAPHY.

MAJOR-GENERAL W. KNOX LEET, V.C.



HEN, by a Royal Warrant of the 20th July 1871, it was enacted that Purchase should "cease and determine" in the British army from the 1st of November following, the British public and the British taxpayer were congratulated by the advocates of this "great military reform" on the benefits which would accrue to both in the efficiency and economy which would follow the sweeping change. In 1870 Mr. George Trevelyan, who was then described as "a rising politician," got it into his head that he had been born into this world to set it right in one or more of its wrong-doings, and he chose as a subject on which to try his "prentice hand," the Purchase system, which then prevailed throughout the British army, with the exception of the Scientific Corps. He, therefore, went on the stump through the provinces, denouncing what he declared to be a crying evil and a scandal-blot upon our army administration. As a writer in *Blackwood's Magazine*, whose pen has done good service on behalf of his brother officers, said, it was a question which lent itself admirably to any dealer in clap-trap—first, as being in itself somewhat complicated; next, as one in which it was not possible to go too far in presuming upon the ignorance of a popular audience—this was so dense and profound; while any amount of virtuous indignation could be got up or simulated over a bloated list of useless generals, sinecure-holding colonels of regiments, and the shameful supersession of impecunious Napoleons by moneyed numbskulls. "We cannot go on much longer," said Mr. Trevelyan, "officering our army from the *froth* and manning it from the *dregs* of society."

The Radicals, who were told that the army had hitherto been the property of the Sovereign and the aristocracy, but was, under the new system, to belong to the nation, were, of course, much pleased at the change, although they did not understand it, nor quite comprehend how their interests were benefited. But the British public and the British taxpayer were assured that under the new order of things, a perfect military administration would be formed, in which complete efficiency would be combined with perfect economy. The commissioned ranks were to be closed against the aristocratic idler, who was said to while away a few years of useless dissipated life in uniform, and his place was to be taken by one who, filled with true martial ardour, accepted the Army as the profession to which he intended to devote his heart and life—giving to his country, so long as health remained to him, the benefit of his brains, his energies, his courage, and his experience. It was declared by more than one orator of the Gladstonian Administration that the army of the future was to be one in which the poorest officer might win his way to fame, if not to fortune, solely by his own merits, which a grateful country would be quick to recognize so long as he placed his sword and his abilities at her disposal.

It may be that after listening to, or reading, some of these bright prophecies, roseate hopes entered into the dreams of more than one youngster commencing a military career under such promising auspices. But existing rights and privileges were not to suffer. The officer who had been gazetted to a commission under the old system was to be liberally dealt with. He would be amply compensated, if he chose to retire; but if he elected to remain, his country would only be too

proud to retain his services and watch over his interests in the honourable profession to which he had devoted his life.

So much for promises. Then came the performance. Purchase having been abolished, the question arose of how promotion was to be carried on. At first Lord Cardwell declared that "it would be maintained for the future much the same as the average of past years"; but in August 1876, Lord Penzance's Commission made its report, stating that for the regulation of future retirement and promotion, compulsory retirement must be introduced, and that promotion must be governed by "seniority tempered by rejection." The Commission, however, stated that Compulsory Retirement should only be adopted "as the complement of other measures and a last resort when voluntary retirement fails."

But how was this recommendation carried out? Let the writer in *Blackwood*, to whom we have already referred, answer the question, for he wrote in the light of knowledge of facts and experience of their consequences: "The sluices were opened, and there was a sudden great flood of promotion. But at what cost was it produced? In the first place, hundreds of officers in the very prime of life, and perfectly efficient, were turned adrift and relegated to enforced idleness upon pensions which, while barely adequate for their maintenance, formed in the aggregate a most expensive investment of the country's money, for surely nothing can be more wasteful than paying men for doing nothing who are both able and willing to work. In the next place, the measure involved a direct breach of faith on the part of a great State department with its servants, and the usual result followed, which is seen in the cases of people who have once deviated from the paths of rectitude, that they are not long in being found to have cast every restraining scruple to the winds. Thus the War Office authorities no sooner found the weapon of compulsory retirement fairly in their hands than they proceeded to wield it with the unsparing ruthlessness of fanatics, upon whom had fallen a new revelation, all the more readily that they had a handy plea, which enabled them to treat the remonstrances and complaints of their victims with cynical contempt. For the small knot of men who pull the strings have merely to pronounce the opinion that the interests of the service demand it, and the necessary warrant is forthwith fulminated by a compliant Secretary of State, under which officers find their services summarily dispensed with upon whatever terms of retirement he and his mentors think proper."

In proof of the truth of these prefatory remarks, we purpose to give, as occasion warrants, certain biographies of officers who have suffered from the rules of compulsory retirement by having their military careers of performance and promise prematurely cut short. In

our present number we give the simple story of the services of one of those officers, whose portrait will be found in our frontispiece. The story is no romantic tale of thrilling adventures; it is a plain narrative of facts, taken from official records, and requires no colouring or embellishment at our hands. The facts speak for themselves. After the perusal of them, our readers must come to the conclusion that the subject of our memoir has done the State "some service," although, unfortunately, unlike Othello's case, the State does not seem to know it.

Major-General William Knox Leet, V.C., the youngest son of the Reverend Edward Leet, Rector of Dalkey, Ireland, is one of five brothers, all of whom served in the British army or navy. He was born November 3, 1833, and having graduated at Trinity College, Dublin, was gazetted as an ensign to the 13th Prince Albert's Light Infantry on July 4th, 1855. He was just too late to take part in the Crimean campaign, but, by the rapid promotion which immediately followed that campaign, he obtained his lieutenancy in a little more than six months. On the 2nd of August 1858 he was appointed to the much coveted and important post of adjutant of his regiment. Those who remember the 13th at that time will acknowledge that only an officer of exceptional abilities would have been entrusted with such a position. The Indian Mutiny was then being successfully quelled, Delhi had fallen, and Lucknow had been relieved, but the rebellion still raged in other districts. Lieutenant Leet was appointed a staff-officer to the forces in the field, and was present in the actions at Almorah on the 17th and 25th of April 1858; was with his regiment in the attack and retreat from the fort of Jugdespore; in the Trans-Gogra operations, including the engagement at Toolsepore; and in the operations in the Tirhoot and the Nepaul Terai, including the two engagements at Bootwah. He was several times specially mentioned in despatches during these operations. On the 4th of November 1864 he obtained his company, having been adjutant of his corps for six years. From August 1867 to March 1869 he was Instructor of Musketry to the 10th Depot Battalion, and from September 1871 to June 1872 Captain Instructor at the School of Musketry at Hythe. In July of the latter year he was appointed to the staff in Ireland, and served as Deputy Assistant Adjutant and Quartermaster-General in the Cork District until the end of September 1877. He was gazetted Brevet-Major in October of that year, and obtained his regimental majority in the May following. In 1878 he was with his regiment at the Cape, in the campaign against Sekukuni and with Wood's "flying column" in the Zulu war of 1879; he was present at the engagement of Zungin Nek. Appointed Commandant of "Wood's Irregulars" (two battalions), he led them in

conjunction with "Buller's Horse" at the storming of the Zulu strongholds in the Intombi Hills. Buller, a soldier not given to flattery, spoke in his despatches of "the admirable manner in which Major Leet had led his men." As Commandant of "Wood's Irregulars," he was in the desperate fighting in the Zlobane Mountain, when his little force was almost surrounded by the Zulu army. Here he had his horse shot under him, and was again mentioned in despatches by Evelyn Wood for "most distinguished courage" and by Buller for "conspicuous and cool courage." That such praise was well deserved, the official record which shortly afterwards appeared, awarding to him the Cross "for Valour," fully testifies. It is thus:—

"WILLIAM KNOX LEET, Major. For his gallant conduct on the 28th of March 1879 in rescuing from the Zulus, Lieutenant A. M. Smith of the Frontier Horse during the retreat from Inhlobana. Lieutenant Smith, whilst on foot, his horse having been shot, was closely pursued by the Zulus, and would have been killed had not Major Leet taken him upon his horse and ridden with him (under the fire of the enemy) to a place of safety."

At the battle of Kambula, Major Leet commanded the advanced redoubt which was the key of the position, was again mentioned in despatches, and received a brevet lieutenant-colonelcy, 29th November 1879. Obtaining that regimental rank in July 1881, he was appointed to command the 2nd Battalion of his regiment in India on the 1st of May 1883. He went to Burma with it the same year, and commanded it throughout the late trying campaign in that country, his name being again honourably mentioned in despatches.

On the expiration of four years' command on the 1st

May 1887, seeing no prospect of employment or promotion before the rule of Compulsory Retirement applied to him as being fifty-five years of age on November 3, 1888, he accepted retirement with the rank of Major-General at the age of fifty-three years and six months, although in robust health and strength and most anxious to continue on the active list.

The only special reward granted for such services was the Brevet Lieutenant-Colonelcy granted after the Zulu war—a barren honour practically of no benefit to him.

The country and the army now lose the services of a soldier whose simple record is one of which any soldier might well be proud; thirty two years' service at home and abroad, adjutant of his regiment for six years, Musketry Instructor, Captain Instructor at the School of Musketry, Deputy Assistant-Adjutant and Quarter-master-General; three campaigns, in one of which he was Commandant of Irregulars, and in another Colonel of a battalion which was second to none of Her Majesty's regiments in the field, and which lost the largest number of officers and men of any corps engaged in the campaign; repeatedly mentioned in despatches in the most eulogistic terms; three medals and the Victoria Cross.

Such is the simple legend of merit and its reward. It is not a story which can be told as an encouragement to the young cadet who to-day aspires to a military career. The lesson it teaches is, unfortunately, one rather of warning than encouragement. But with the truth before us, that England is thus treating good and gallant men who have devoted their lives and energies to her service, we cannot help asking,

Can such things be,
And overcome us like a summer's cloud
Without our special wonder?



THE CONQUEST OF THE PUNJAB.

CHAPTER IV.

THE SECOND PUNJAB CAMPAIGN.—MOOLTAN.



AJOR-GENERAL SIR JOHN LITTLER, K.C.B., was the officer selected by the Governor-General for the command of the British troops which, under the terms of the treaty entered into after the battle of Sobraon, were to be cantonned in the immediate neighbourhood of the Sikh capital.

Prior to Sobraon we had annexed that part of the dominions of Dhuleep Singh as far as the left bank of the Indus, and our frontier stations now were Ferozepore and Loodianah, with Umballa and Kurnaul in support. The troops at Sir John Littler's immediate disposal consisted of 1 regiment of British and 8 of Native Infantry, a regiment of Irregular Cavalry, and 3 troops of Horse Artillery. The General was responsible only for the military situation, but two very experienced officers were associated with him in affording aid to the Council of Regency in political matters. Major H. M. Lawrence, who had succeeded to the post of Resident in the Punjab on the death of Major Broadfoot at Moodkee, and Major George Macgregor, an officer who had displayed the most conspicuous qualities in Afghanistan, were Sir John Littler's colleagues. Under these three officers were a number of assistants selected chiefly from the subaltern ranks of the East Indian Company's Army. They were entrusted with the task of aiding the Sikh Sirdars in a wise and just administration of the outlying provinces, in settling the land revenue of the province on an equitable basis, and in keeping the Government well acquainted with the progress of events throughout the Punjab.

No regular land assessment had yet been made. In days gone by, whenever the Sikh Government was in want of money, money was demanded from the Governors of the various districts, and if (as often happened in the more distant districts) any delay occurred in the collection of what the Sikh ruler considered a proper sum, an armed force was despatched to hasten the collection. Amongst the officers selected to aid Henry Lawrence in his task of pacifying the Punjab were many who, in the dark days of the Mutiny did much to enable us to make good our hold on India. Few amongst them now survive, and the daring deeds of those few are well-nigh forgotten.

Napier, of the Bengal Engineers,* Herbert Edwardes,† H. B. Lumsden,‡ James Abbott,§ John Nicholson,§ Reynell Taylor § and George Lawrence,§ were, perhaps the most prominent of the band; but Anderson, § Maclagan, || Pollock, ¶ Young, § Herbert § and Bowie § were scarcely their inferiors.

These officers were not employed in mere revenue duties. There were considerable bodies of troops still retained under the pay and management of the Lahore Durbar, and though war was at an end, disaffection was rife, and these heroes—for a hero every one proved himself to be—were posted in the most important positions in the Punjab for the purpose of instituting a just and benevolent system of Government, to hold in check the lawlessness of the Sikh forces, and to keep our own authorities informed of the progress of affairs.

There was no strong belief in the permanency of the treaty entered into after Sobraon, and within a few months of that victory it was seen that the Sikh Sirdars were plotting against us. The opposition of the Queen-mother was scarcely concealed, and Henry Lawrence found it necessary to separate her from her youthful son, who was also showing symptoms of insubordination. The cession of Cashmere, too, was not carried out without a struggle, and very much dissatisfaction was expressed by the Sirdars at the system of land assessment introduced by the British. These days of tyranny and speculation were over.

It is necessary, before entering on a sketch of the Second Sikh War, to describe briefly the position occupied by the British forces, and by the various subordinates to the Resident at the outset of the campaign.

Sir John Littler, with Colin Campbell as his brigadier, occupied Lahore, where Sir Frederick Currie had succeeded Henry Lawrence as Resident, on the latter taking sick leave to England. In the districts around Lahore were located selected civilians, such as John Lawrence, Arthur Cocks, and others. Along one frontier were posted the military assistants, Majors Abbott and Nichol-

* Now Field-Marshal Lord Napier of Magdala, G.C.B., Constable of the Tower.

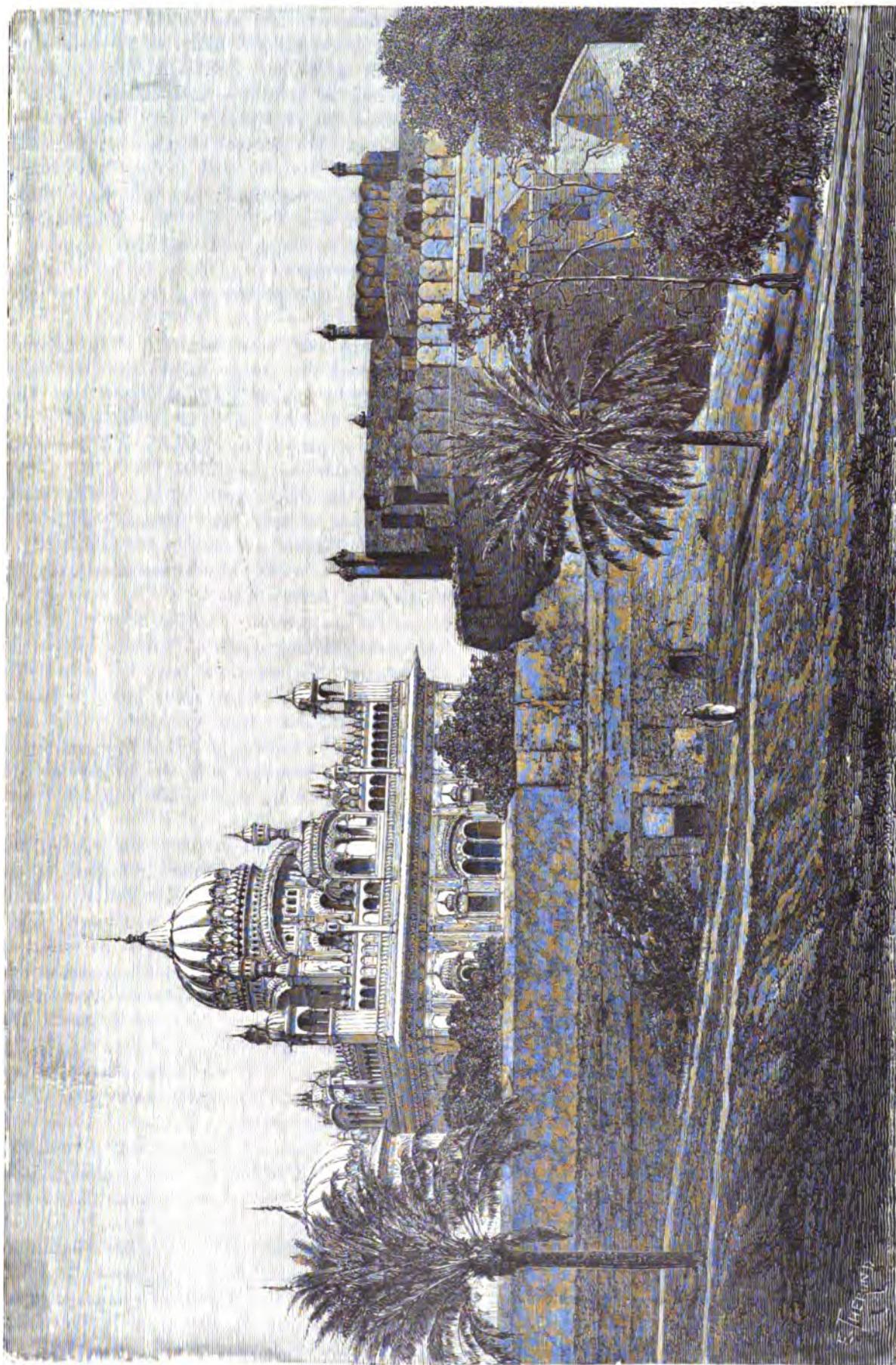
† The late Sir Herbert Edwardes, K.C.B.

‡ Major-General Sir H. B. Lumsden, K.C.S.I.

§ All, alas, gone over to the majority.

Lieut.-General Maclagan, R.E.

¶ Major-General Sir F. R. Pollock, late Commissioner of Peshawur.



PALACE OF LAHORE.

son in Hazara, Herbert at Attock, George Lawrence and Bowie in Peshawur, Herbert Edwardes at Bunnoo, Van Cortlandt, a veteran who had been for many years in the Sikh employ, at Dera Ismael Khan, Vans Agnew and Anderson at Mooltan.

Every effort had been made on our part to keep faith with the Sikh soldiery ; they had been paid with scrupulous regularity. Their officers had been retained in their positions. Sikh regiments had been raised for employment under our own flag. Even the Sikh chiefs had been continued in their posts. It was to these last that the spirit of insurrection was due. Their power of amassing wealth was past, and they determined to make one final bid for liberty.

The storm burst in Mooltan. On the 5th April 1848, the two British Residents, Vans Agnew and Anderson, were barbarously murdered, and with the connivance if not at the direct instigation of the Sikh Governor. News of the occurrence was at once despatched to the Resident at Lahore and to Edwardes at Bunnoo. Currie, the Resident, counselled the immediate despatch of a force to besiege Mooltan and quell the rising. Promptitude, he urged, would stem the revolt ; procrastination would result in a general upheaval in the Punjab. The Governor-General, dreading the effect of a hot-weather campaign, and hoping against hope that the rising was but local, and would be suppressed by moral means, refused to support Currie's demands.

Edwardes, cut off from all communication with headquarters, acted with a heroism which should ever be remembered by British officers ; his men were tainted, his funds low, the rivers between him and his objective swollen with heavy rains, he had no guns and no ammunition, but he had a head to plan and a heart capable of the greatest things. Leaving Reynell Taylor to maintain order in Bunnoo, he at once called on all good Mahomedans to rally round him, and marched straight on Mooltan. He was joined by Van Cortlandt from Dera Ismael Khan, and by many hundreds of gallant horsemen from the Pathan frontier-tribes, and finally, in June, he had raised a heterogeneous force of some 6,000 men and 18 guns, and had effected a junction with the troops of the Nawab of Bhawalpore, an independent prince, who had thrown in his lot with us. On the 18th June, at Kineyree, Herbert Edwardes, at the head of the Bhawalpore troops, assisted by two regiments and six guns of Van Cortlandt's force, defeated the Sikh troops who had come out from Mooltan to oppose him. The engagement well merits record. One English lieutenant headed a half-trained body of some 6,000 men in all ; after an action lasting eight hours, inflicted a crushing defeat on the regular troops of the Khalsa Raj. Edwardes' loss was 300 killed ; over 1,000 of the enemy were slain, and 8 guns fell into our hands. On the 22nd June, having halted to enable Van

Cortlandt to cross the Indus, Edwardes pushed across the Chenab, and, on the 1st July, inflicted another crushing defeat on the Sikhs at Suddosan, under the very walls of Mooltan itself. In this engagement Edwardes had the assistance of Lieutenant Lake, who had now joined the Bhawalpore army, and Van Cortlandt, the veteran Sikh general, destined to win still higher laurels in the Mutiny, of a soldier-clerk named Quinn, who showed consummate heroism, and of an Englishman in the employ of the Bhawalpore Rajah, Macpherson by name, and who, after showing the gallantry characteristic of his race, fell as a soldier should fall, at the head of his men at the very moment of victory.

The Sikhs were now practically shut up in Mooltan, for such was the energy infused into Edwardes' irregular army by the few English officers who had joined him, that though on many occasions sorties were made, no serious attempt was ever put into execution to overwhelm the besieging force.

Despite the urgent representations of the Resident at Lahore, that efficient and promptly afforded help to Lieutenant Edwardes would, in all probability, localize the rising, the Indian Government absolutely refused to permit any British troops to be actively employed during the hot season. On the news of the victory of Suddosan reaching Lahore, Currie, risking the displeasure of his superiors and his own reputation, ordered General Whish to move down to Mooltan and commence regular siege operations. The movement was initiated by Currie, and it is but just to add that the Governor-General and the Commander-in-Chief, though disapproving it, cordially supported him when once the order was given.

Whish's force moved in two columns, one, under his own immediate command, leaving Lahore on the 24th July, the other, under Brigadier Salter, with a siege-train, leaving Ferozepore two days later. The British regiments with each column moved by water, and the siege-train also was dropped down the river in native boats from Ferozepore ; the whole concentrated under the walls of Mooltan on the 19th August. The force numbered but 7,500 men (of whom only 1,700 were British soldiers), and was accompanied by two batteries of Horse Artillery and 32 siege-guns. The following was its composition :—

Two troops Bengal Horse Artillery, 4 companies Garrison Artillery, 3 regiments Native Cavalry, 10th Foot, 32nd Foot, 8th, 49th, 51st, 52nd, and 72nd Regiments Native Infantry.

In addition to these regular troops, there were some 9,000 levies, under Herbert Edwardes and Lake, including the army of the Nawab of Bhawalpore, and some Sikh regiments, which, under Rajah Sher Singh, had hitherto remained faithful to us.

The chief engineer to the force was Major Robert Napier, of the Bengal Engineers, who had been wounded, mentioned in despatches, and promoted to the brevet rank of major for his services in the war of 1846.

On the 7th September a council of war was held in the General's tent to determine on the mode of action to be pursued, when Napier suggested the immediate carrying of the town by assault; this was negatived, and finally it was determined to embark on the more lengthy but less costly operation of a siege. On the 12th, after a sharp engagement, in which we lost 4 officers and 35 men killed, and some 216 men wounded,* the enemy were drawn from the suburbs of the town, and our first parallel commenced; in this action Major Napier, ever foremost in danger, was badly wounded. And how high beat the heart of everyone in that gallant force, in the hope that the reduction of the town by assault would be immediately undertaken; but treachery was still at work, and two days after the successful fight at Dhurm salah, Rajah Sher Singh, with 4,000 men, deserted the British ranks, and joined the enemy. A second council of war was now held, and an unanimous opinion came to, that the siege was no longer practicable. It was, therefore, decided to concentrate the troops, and assume a defensive yet dignified position, until the Government could organize its measures for the Punjaub war, into which we were thus launched.

On the 15th September, Whish, raising the siege, moved round to Sooruj Koond, and there remained until the arrival of reinforcements enabled him to recommence operations with means adequate to the task before him. Sher Singh the traitor did not lie on a bed of roses. Moolraj, the Governor of Mooltan, suspected him of treachery; but he, determined to wipe away this stain of reproach, threw himself heart and soul into the task of proclaiming a religious war in the Punjaub; in this he was successful beyond all hope, and it was through his instrumentality that Dost Mahomed,

* CASUALTIES ON 12TH SEPTEMBER.

Killed.

10th Foot.—Major Montzambert, and 7 men.

32nd Foot.—Lieut.-Colonel Pattoun, Quartermaster Taylor, and 4 men.

8th Native Infantry.—Ensign Lloyd.

49th Native Infantry.—Lieutenant Cubitt; 9 men.

51st Native Infantry.—3 men.

72nd Native Infantry.—7 men.

Wounded.

10th Foot.—Captain Macgregor, Lieutenant Herbert Hollingsworth, and 68 N.C.O.s and men.

32nd Foot.—Captains Balfour and King, Lieutenant Birtwistle, Ensign Swinburn, and 39 men.

Artillery.—Lieutenant Bunny; 11 N.C.O.s and men.

Engineers.—Major R. Napier, severely.

8th Native Infantry.—Captain Wroughton, Lieutenant Turnbull, and 38 men.

49th Native Infantry.—Lieutenants Richardson and Irwin; 43 men.

51st Native Infantry.—2 men.

72nd Native Infantry.—9 men.

the ruler of Cabul, threw the weight of his arms against us.

On receipt of the distressing news from Mooltan, the Resident at once took steps to secure the person of the Maharajah, and with that stout-hearted soldier, Colin Campbell, inaugurated measures for preventing the disaffected Sirdars in the capital from holding any communication with the insurgents. It was now evident that we had been sleeping on a mine in the Punjaub; from all sides came news of risings. George Lawrence in Peshawur was beset with grave difficulties, and finally was compelled to surrender the place, himself, and his assistants to the Sikhs. Reynell Taylor in Bunnoo was nobly carrying on Edwardes' work, and despite the overwhelming difficulties which confronted him, and the presence of a powerful Afghan contingent in the valley, ousted the Sikhs from the fort of Sukhee, and held the district safe from harm. Nicholson, at the head of a small band of irregulars, seized Attock, and then, pushing on to the north, offered his services to James Abbott in the mountains of Hazara. Earnest representations were made to the Governments of Bombay and Scinde to send up reinforcements, and the Commander-in-Chief, Lord Gough himself, prepared to take the field, and put an end once and for ever to the pretensions of the Sikhs to power in the Punjaub.

Reinforcements were urgently needed at Mooltan. Robert Napier, who was a tower of strength to General Whish, and who, owing to his intimate knowledge of the province, to the close friendship which existed between him and the Lawrence at Lahore, was peculiarly the right man in the right place at Mooltan, pointed out the absolute necessity of two brigades being despatched to enable the siege to be carried on properly. This he did, looking upon the *probable state of the Punjaub in the next two months*.

Napier's surmise as to the effect of Sher Singh's defection was based on a long acquaintance with the native character; he felt full well that the Proclamation, being sown broadcast throughout the country, would have full effect, and that, ere many weeks had passed, we should be engaged in a life and death struggle for mastery in the Punjaub.

Proclamation.

To all the officers of the Sepoys, Sikhs, and Mussulmans, and regiments, and all others that eat the salt of the Sovereign of the Khalsa Maharajah Dhuleep Singh Bahadoor, such, for instance, as Sheikh Emamudin, Towak Mull Dutt, and General Cortlandt Sahib Bahadoor, etc.

A religious war being now on foot, it becomes every public servant, whether he be Sikh or Mahomedan, at sight of this document, to march without delay, and join the camp of the Khalsa, along with Rajah Sher

Singh and Dewan Mull Raj, in the work of eradicating the Feringhees from the country of the Punjab.

1. For their own religion's sake.
2. For the salt they have eaten.
3. For the sake of fair fame in this world.
4. For promotion sake.
5. For love of the Jagheers and dignities to be obtained.

The Bombay Government readily responded to the call made on it by that of Bengal. The Governor-General had pointed out the difficulties he was under as to affording aid to the besieging force at Mooltan. Every available man that could be spared in the Bengal Presidency would be needed for the task of restoring order in the Upper Punjab. Indeed, the want of the troops under Whish was keenly felt by Lord Hardinge.



A JAZAIL WALLAH (ALLY OF THE SIKHS.)

And whoever shall not join in this religious war,

1. He is unfaithful to the Sirkar.
2. An outcast from religion.
3. Worthy of any punishment that may be inflicted on him.

(Signed Rajah Sher Singh Bahadoor.
and sealed) Dewan Mooll Raj.
 Sirdar Khooshal Singh.

He urged on his old comrade the Commander-in-Chief in Bombay, Sir Charles Napier, the urgent necessity of pushing up reinforcements. Napier was not the man to let Hardinge and Gough reproach him for want of energy, and within a few days of receiving the appeal for help, he had despatched a division under Brigadier-General the Hon. T. Dundas.

On the 26th December, Brigadier the Hon. T. Dundas

arrived at Mooltan with our Bombay troops, detailed in compliance with the urgent representations of the Governor-General. The force composed the 60th Rifles, 1st Bombay Fusiliers, Scinde Horse, 1st Bombay Lancers, 3rd, 4th, 9th, 19th regiments Bombay Infantry, and two batteries artillery. On the 28th Whish attacked and drove in the enemy's outposts, advancing in four columns, the two on the left being composed of Bombay troops under Brigadiers Dundas and Capon; those on

1st Bombay Fusiliers.—One man killed, Lieutenant Mules and 25 men wounded.

51st Bengal Native Infantry.—Lieutenant Tyrwhitt and 10 men wounded.

52nd Bengal Native Infantry.—One man killed, Lieutenant Playfair and 14 men wounded.

72nd Bengal Native Infantry.—Seven men killed, Colonel Nash, L. Gillon, Ensign MacDougall, and 20 men wounded.



THE BRITISH TROOPS ENTERING MOOLTAN.

the right being furnished by the Bengal army under Colonel Young, 10th Foot, and Nash, C.B., 72nd Native Infantry. Our losses were:—

Staff.—Lieutenant Younghusband, A.D.C., killed.

10th Foot.—Two men killed, 4 wounded.

32nd Foot.—Two men killed, Major Case, Lieutenant Straubenger, and 17 men wounded.

60th Rifles.—Major Gordon, and 2 men killed, Major Dennis, Lieutenant Brooks, and 10 men wounded.

3rd Bombay Native Infantry.—Lieutenant Dyett, Ensign Shaw and Napier, and 10 men wounded.

4th Bombay Native Infantry.—Five men killed, 19 wounded.

9th Bombay Native Infantry.—One man wounded.

Bengal Artillery.—One man killed, 1 wounded.

Bombay Artillery.—Two men killed, Captain Bailey and 9 men wounded.

Following up this success, Whish determined to assault

the town, and on the 2nd January two columns, one of Bengal troops under Brigadier Markham, consisting of the 32nd Foot, 49th and 72nd regiments Native Infantry, the other of Bombay soldiers under Brigadier Stalker, consisting of 1st Bombay Fusiliers, 4th Bombay Rifles, and 19th Native Infantry, moved forward to the attack. At noon the columns were put in motion, the breaches having been previously declared practicable by the Engineers, and after a short struggle, in which our losses were extremely small, Whish had the satisfaction of being able to report to the Resident of Lahore that the city of Mooltan was in our hands.

Casualties.

32nd Foot.—Three men killed, Captains Smyth and King and 18 men wounded.

49th Foot.—One man killed, 1 man wounded.

72nd Foot.—One man killed, 5 men wounded.

1st Bombay Fusiliers.—Captain Lerth, Lieutenants Gray, Dansey, Herne, and Law, wounded.

4th Rifles.—Lieutenant Warden wounded.

19th Native Infantry.—Lieutenant Gordon wounded.

Though the city of Mooltan was in our possession, the Dewan Moolraj yet held the citadel, and in it were some 3,000 of the best troops. The gallant stand these men had made, the bold front they had shown our assaulting columns, the skill they had displayed in retrenching our breaches, all showed General Whish that the capture of the citadel must necessarily be a work of time, and could not be entered upon until the batteries had made more impression on its walls than at present. On the other hand, Moolraj saw himself closely invested, he saw one city with its vast supplies cut off from him, he saw water communications with the capital intercepted by the steam flotilla of the Indian navy, and he knew that the assemblage of Lord Gough's army in the Punjab entirely prevented any material help being afforded him by the Sirdars in the upper provinces. In fact, he saw he was entirely dependent on his own resources, which were daily diminishing, whilst the British, on the other hand, were gaining strength.

Moolraj, therefore, thought it time to open negotiations with a view of securing his own safety, and he accordingly addressed letters in this sense to Edwardes, the political agent with General Whish. Edwardes, how-

ever, declined all interference, and Moolraj, who saw the net closing tighter and tighter round him, at last surrendered unconditionally to the English, and on the 22nd January 1849, the very day on which Whish had determined to assault the citadel, the British flag replaced that of the Khalsa on the battlements of Mooltan. And the greater part of Whish's force were now free to move to the north to the aid of Gough, who had met with a serious check at the hands of Sher Singh on the field of Chilianwallah.

The casualties throughout the operations had been extremely heavy. When we recollect that for months the task of hemming in Moolraj with his powerful garrison had been effectually carried out by Herbert Edwardes and Lake, two young subalterns, aided only by such levies as they had been able to raise, the siege stands out as a marvellous instance of what British pluck and British doggedness can achieve. Irrespective of the losses incurred by the irregular troops under Herbert Edwardes and Van Cortlandt, and in the Bhawalpore army under Lake, which amounted to over 1,500 killed and wounded, we lost 12 officers and 200 men, 67 officers and 915 men wounded, during the siege; the regiments that suffered most severely being the 10th and 32nd Foot.

NUMERICAL LIST OF CASUALTIES AT SIEGE OF MOOLTAN.

	Officers.	Men.	KILLED.	WOUNDED.
			Officers.	Men.
Staff	1	—
10th Foot	1	13 4 113
32nd Foot	2	17 11 104
60th Rifles	1	10 2 28
1st Bombay Fusiliers	—	16 6 76
Bengal Engineers	—	18 7 40
Bombay Engineers	—	12 2 56
Bengal Artillery	1	12 4 67
Bombay Artillery	—	9 2 27
11th Bengal Light Cavalry	—	— 6
7th Irregular Cavalry	—	2 — 6
11th Irregular Cavalry	—	— 8
8th Bengal Native Infantry	...	1	3	4 56
49th	"	...	1	10 2 58
51st	"	...	—	9 1 23
52nd	"	...	1	8 1 42
72nd	"	...	1	24 7 48
3rd Bombay Native Infantry	...	—	—	1 2 20
4th	"	...	—	29 2 72
9th	"	...	1	1 2 10
19th	"	...	—	6 2 42
Indian Navy	1	1 2 3
Total	...	12	201	67 915

(To be continued.)

REMINISCENCES OF SARK; OR, "IMPERIUM IN IMPERIO."

BY MAJOR-GENERAL "X."



SARK, a little island about two miles long and a mile and a half broad, like a well-placed sentinel keeps stern watch, in latitude $49^{\circ} 26''$, in the English Channel, over the coasts of Jersey, Guernsey, and Alderney, scattered within a radius of twenty-six miles from its Liliput Empire. The coast is indented with sandy, shingly, and rocky beaches, which cannot be safely approached in boats in severe gales, neither can any boat put off from Sark in very heavy weather, by reason of its singularly wild and bold coast.

Sark, sometimes called Serk, is a spot within the British Dominions where we may fully realise the life of our ancestors as regards locomotion, and learn what it is to exist for a time without the excitement of railway travelling, telegraphs, the daily post, and daily newspaper. A visitor there may find himself shut out of the world longer than he anticipated, and friends and enemies, letters, pleasant and disagreeable, may alike await him, without being able to reach him, while he can at ease contemplate the island of Guernsey, blessed (if these things are a blessing) with a daily mail and a telegraph, and the London morning and evening newspapers.

Under favourable circumstances, Sark may be reached in about fifteen hours from London, being only eleven miles from Guernsey and sixty from Portland.

When we visited the island, circumstances were favourable, the weather was calm, and the owners of a Guernsey steamer sent her across, and we arrived at Sark after little more than an hour's steaming. The Creux harbour was not very convenient, and, after a good deal of scrambling and climbing, we reached the higher land, and found Dixcart Hotel comfortable, decidedly rustic, and the charges moderate.

Even during the prevalence of storms, it is quite possible to eat, drink, and sleep with much comfort at Sark; poultry, island mutton and pork, wild rabbits, and pale ale, are always forthcoming. Reptiles are rare; but Sark is rich in birds, and not poor in insects; and there are plenty of fish round its coasts, and temples of marine zoology.

The small population, by constant intermarriage, have a peculiar physiognomy, and generally wear a peculiar costume.

The wild scenery of the island, and the vertical rocks

enclosing it, are greatly enhanced by the weird beauty of the caverns, vaults, and natural tunnels which pierce the enormous isolated masses of rock in many directions. The unconquerable, unreposing, and untired waves are ever meeting; undermining and tearing the apparently indestructible coast; so that the artist may find almost unnatural scenery for his pencil, and the geologist, many intricate studies in the alternation of almost stratified granite, with masses of greenstone, serpentine, and achynolite, traversed by numerous veins and fissures filled with soft clay, tinged by iron or manganese.

The botanist may not discover much to reward his search, although specimens of a few plants occurring on the neighbouring coast of Norway, rare or altogether unknown in England, are to be met with; but the seeker after specimens of marine zoology will find much wealth of animal life within the small space of the Sark caverns, which are remarkable, not only for their picturesque wild beauty, but for the number and variety of the zoophytes that are found in them.

There is but one good landing-place at Sark, and when you arrive there in the little Guernsey steamer *Rescue*, by some one-sided arrangement with the Sark boatmen (who reap a bountiful harvest thereby), the steamer anchors about sixty yards from the little landing-stage, and the passengers are landed in small boats, and have to re-embark in a similar manner. Not far from the landing-place we find the "Creut du Terrible," a large natural shaft, like a mine shaft, in the rocks, communicating with the sea, but terminating above, in a field, its mouth being surrounded with bushes and brambles. At high water the waves dash in below with great rapidity and force against the walls of naked rock, which rise vertically over 150 feet; and it requires some nerve to gaze steadily into the depths of the "Creut du Terrible" when the waves come rushing in with an angry roar, the boulders and shingle roll over the base of the romantic shaft, and the fleckered foam of the waters splash upwards with a loud and reverberating echo. At low tide, by following a good path down the cliffs, and scrambling over certain obstacles, a rocky beach covered with boulders is reached; and the variety of colour, due to the lichens and the weathering of the rocks, is remarkable. On a fairly calm day the stillness is only broken by the water rippling in among the shingle; and, standing at the entrance, the tourist sees the sky above, the water below, bright and sharply-

defined rocks, with overhanging vegetation, surround him. A portion of the coast of Jersey is visible at no great distance.

Sark is divided into "Great" and "Little," the peninsula between them being connected by the *coupée*—a lofty, narrow, natural bridge about 300 feet long, with shelving broken rocks on one side and perpendicular cliffs on the other. The path is so narrow in some places that certain death must result if the traveller slipped and fell; but few accidents are recorded. It is among the traditions of the island that a person who often crossed it used to apply a test to himself after he had been drinking, to see whether he could safely

the crew of a certain vessel, the *Sussex*, with intention of expelling the gangs of pirates, anchored off Sark, and sent a message on shore, pretending that the captain had died, and soliciting permission that the corpse be interred on shore. Permission was given on condition that all attending the funeral should come unarmed. This was acceded to, and the crew were searched. The coffin, however, had been filled with arms, and the funeral party were permitted to carry the coffin into the chapel. They speedily armed themselves with the concealed weapons, and took possession of the island. This tale is, however, told of other places, so it can hardly be true of all. Perhaps it had its origin in the story of the Trojan horse.

Helier de Carteret, Seigneur of St. Ouen in Jersey, accepted, by certain commissions of Queen Elizabeth, the island of Sark for himself and his heirs of St. Ouen for ever. However, prior to this, in 1549, when Edward VI. was King, some Frenchmen came from Brittany to inhabit Sark, as the island does not then appear to have had inhabitants; and one Captain Brue, and 400 men, lived there for about four years, during which time they built two fortresses. At the end of that period they became heartily tired of Sark, and, running short of provisions, gradually decamped, and made their way back to France. About that time some Flemish war-vessels arrived at Guernsey, to wage war against France, and finding Sark was but thinly peopled, made a descent on the island, aided by some people from Guernsey, and took possession of it with little trouble. The Flemings are then said to have offered the island to Queen Mary of Great Britain (the wife of King Philip of Spain), representing to her that they had driven out the French; but as Her Majesty gave them no encouragement, and not seeming to care about the present, the Flemings came back to Sark, destroyed the fortifications, and abandoned the island to its fate.

The chronicle then narrates how the Seigneur, seeing the island vacant and uninhabited, as before, "considered within himself" the danger that might happen as to the island of Jersey, as of Guernsey, if the French again took possession of Sark; considering, also, on the other hand, that if the island remained uninhabited and vacant, that it would be a nest of robbers and pirates who would always take refuge there to watch for the poor merchants who trafficked among the said islands of Jersey and Guernsey. As a result, the Seigneur of St. Ouen took the said island of Sark.

The island is evidently "*Imperium in Imperio*," because it was granted by Queen Elizabeth in fee farm by Letters Patent under the Great Seal in 1565, to Philip Carteret as a reward for retaking it from the French, by the twentieth part of a knight's fee, amounting to fifty sols sterling, payable to the King's (or Queen's) receiver at Guernsey.



THE GOULIOT ROCK AND CAVERNS.

pass. His method was to mount a cannon close at hand, and walk along it. If he succeeded in doing so without falling, he was content, and travelled over the *coupée*; but if he tumbled off the cannon, he lay down until he had slept off the effects of the liquor he had drunk.

Early chronicles and ancient MSS. tell that about A.D. 565 St. Maglorius came to Sark to convert the inhabitants from paganism. He built a small monastery, which existed for several hundred years; and it is thus apparent that Sark was peopled as early as the sixth century. An old record refers to an annual pension granted to the monastery by the Dukes of Normandy and their successors, the Kings of England, which was evidently terminated about 1349 by the monks quitting Sark. Certain inhabitants, no longer restrained by the monks, turned pirates, and used to hold out false lights in the night to decoy vessels upon the rocks. However,

In 1656 the island contained about forty households, and was parcelled into several estates, and let out to divers tenants. There was also a little "chappell." The present Seigneur is William Collings, Esq. The number of inhabitants rarely exceeds 500; there are about 100 houses; and the male population are chiefly employed in agriculture and fishing.

Sark is much resorted to during the summer and autumn months by tourists, and people from Guernsey and Jersey, its air being so pure, and the simplicity of rural life there pleasant. The overworked brain is there free from the chance of receiving startling telegrams; and letters and newspapers only find their way there by the steamer or market-boats at uncertain and irregular intervals. One or two country hotels and agreeable lodging-houses have sprung up, so that visitors can procure accommodation at moderate rates. The want of a resident medical man was so much felt, that the Seigneur and inhabitants have, within the last few years, arranged to pay a small stipend to secure the services of a gentleman to live there.

Sark contains about 800 acres. The inhabitants cultivate potatoes and a little wheat; but the rabbits which abound preclude much grain being successfully raised. Cows and pigs thrive well at Sark. The Seigneur has the whole of the tithes, but pigs, potatoes, parsnips, and hay are exempt. Some years ago certain silver-mining operations were commenced, but languished for want of the necessary funds. Some people are still of opinion that the mining researches might with much profit be continued. The language of the inhabitants is Norman French, but most of them understand English; the services of the Protestant Church are conducted in French. Much of the supplies needed by visitors comes from Guernsey.

For detached stories of legendary lore of Sark, we commend to our readers Mrs. Lane Clarke's *Folk Lore of Guernsey and Sark*; and even now, the little island clings to uncanny reminiscences and mysterious legends. Let a brief reference to one suffice here. Philip de Carteret, a descendant of the first Seigneur, lived many years, as the historian relates, in a cottage overlooking Havre Gosselin, a picturesque bay. He was respected by his neighbours, spent much time in cheerful industry as a fisherman, and had a kind wife and only child—a son. Tempted, probably by those who, fiend-like, strive to blast hopes and happiness they cannot share, de Carteret remained absent for longer than was necessary in his fishing excursions; and at length his coloured red boat sail was seen no more. A year passed, and his wife deemed herself a widow; but her husband suddenly returned, and had plenty of money with him. As he declined to gratify the curiosity of his neighbours, his good name was speedily darkened by evil reports. Once more he absented himself; and his son,

feverish with past excitement, wandered along the sea-shore, when, unfortunately, his attention was attracted by a light and voices in the distance. Unmooring his little boat, he sought the cave whence the light came. The tide swept the boat into it, and he there found his father head of a band of smugglers, drinking and disputing with them. The boy was seized and dragged among them. When he refused to drink and to take the oath of brotherhood, he was accused of being a spy and a traitor, and threatened with death. His father interfered, led him out of the cave, and endeavoured to persuade him, saying he could not save him from death if he refused. When the lad still declined to drink and to take the oath of brotherhood, or to re-enter the cave, his father struck him. The child fell into the water, and the waves held him in their embrace. Aided by his comrades, the father unsuccessfully searched and dived for the child. Exhausted and raving, he was borne to his cottage, and at length finally disappeared and was never again heard of by his wife.

The stories related by Mrs. Lane Clarke are said to be mostly, if not entirely, of her own invention, the



CREUX HARBOUR (LOOKING OUTWARDS).

outcomings of fertile imagination. The above, however, has a certain foundation of fact.

Sark illustrates its feudal character by its establishment of Militia. Every male between sixteen and sixty is bound to render "man-service" to the Crown. By law, the extent of the service is that each man should provide himself with arms and ammunition, attend drill, and keep watch and guard when required. The Sark Militia is not, however, extensive, and they have but a primitive rifle-range for practice, where the distances are not, as in most rifle-ranges, properly marked out. As a general rule, the arms and accoutrements and ammunition are supplied by the British Government, and the drill and practice days are very few.

The ancient law of Normandy, *le contumier*, compiled in the thirteenth century, is the foundation of the law of Sark. The Court at Sark consists of the Seneschal or Judge (or his deputy), the Prévost, and Greffier. All these individuals are appointed by the Seigneur. There

is also in Sark a Court of Chief Pleas, the members being holders of certain tenements. The Seigneur must be present either personally or by deputy, and his consent is necessary for the enactment of an ordinance.

In ecclesiastical matters, Sark is under the diocese of Winchester, and a small church was built about 1820.

Much seaweed is used for agricultural purposes ; and any visitors at Dixcart's comfortable hotel will find an object of considerable interest in the garden and grounds of the Seigneurie. Some of the buildings are very old, some modern ; but all have been blended together with considerable taste, and are in good order. In front of the house (or palace) is a small battery of four guns, a conspicuous object being a bronze cannon with an inscription showing it was presented to the Seigneur of Sark by Queen Elizabeth, in 1572.

By the original charter, the Seigneur was bound to divide the island into forty tenements, each of which

any landing-place. According to the "oldest inhabitant" of Sark, the Lords of the Admiralty once reached the little breakwater, and landed there. None of the inhabitants were visible, and "my Lords" did not notice the entrance through a certain tunnel on to the main land. They therefore arrived at the conclusion that the inhabitants of Sark were in the habit, like goats, of scrambling up the precipitous rocks by some secret paths ; and, not wishing to emulate their example, sailed away from the island.

From the "Hog's Back"—a difficult position in a stormy breeze—the tourist has a glorious view of the sea and coast. Baie d'Iscart lies spread out at his feet, the Coupée Bay at no great distance on the right ; and remarkable castellated rocks known as "Point Terrible," with the sea ever racing wildly across them, add to the general grandeur of the scenery, with its special elements of local beauty. Some of the large caverns are



THE BURONS ROCKS.

had to provide a man properly armed and equipped for its defence. This system gave way to what was formerly the common law of all the Channel Islands, viz., that every able-bodied man from the age of sixteen to sixty was liable to serve in the militia and find his own arms. By virtue of his charter, the Seigneur of Sark is in command of the armed force of the island ; and the late Seigneur, the Rev. W. Collings, though in Holy Orders, used to don the red coat, review his troops, and exercise them in rifle-shooting on the rifle-range.

Sark has no criminal jurisdiction, and in all civil cases there is an appeal to the Royal Court of Guernsey, and Sark is bound to follow the law in force in Guernsey ; but its inhabitants generally settle their own disputes, and its little prison rarely has an inmate.

Sark being honeycombed by caverns, affords many objects of real interest. There are numerous small bays denting the coast, but backed by a wall of inaccessible cliffs, so that a stranger might find it difficult to find

singularly fine, and have the appearance of huge amphitheatres, often roofless, like some amphitheatre of antiquity, with rocky, broken, and fantastically coloured walls—usually granite of various shades. Sometimes the deep amber tint is prominent ; then there are portions of dense black, relieved by grey streaks and patches of lichens ; occasionally a fence, some purple-tinted rocks more or less darkened by sea-water and seaweed—the whole lighted by the hues of partial light gleaming in from above, and the pale gleams that enter through the tunnel's openings. Both interesting minerals and a great variety of sea-weeds and other sea treasures, piles of boulders of all sizes and shapes, are to be found in these remarkable caverns.

Sark, having its feudal customs and special laws, has neither town nor village. No house can be built on the island without the consent of the Seigneur, and no one can live there if he objects. However, the Seigneur has so greatly improved his own house, grounds, and

gardens, that they form one of the "beauties" of the islands; and the high cultivation visible there forms a marked contrast to the mild tillage and somewhat careless farming of the Sark farmers.

There is also a picturesque little parsonage and a plain-looking church. The adjacent island of Brechon, separated from Sark by a narrow strait, and only half a mile long and a quarter broad, is worth a visit. The population usually consists of five or six people, who possess a few sheep, a dog or two, and a cow and horse. The cow provides new milk for the tourists' entertainment.

"Gouliot Rock" lies in the deep, dark, and somewhat dangerous passages between Sark and Brechon, and as there is only one landing-place, accessible at certain times of the tide, the tourist has to scramble along weed-covered rocks, "through bush and through briar," damaging garments to reach the cliffs at the top.

Like Sark, Brechon is indented with picturesque caverns, and cormorants and sea-gulls often stand sentry on the jagged and varied pinnacles of projecting rocks. There is a small cairn at the summit of Brechon, from which an exquisite scenic view can be secured; but we were not sorry to find ourselves once more in our Sark country hotel, after much pleasant scrambling.

The good old British rat still lives in Sark, as the Hanoverian monster rat, who usually destroys all other species, has not yet been imported.

The wooded scenery of Sark is alike characteristic and remarkable. It is really liliputian. There is hardly a tree in the island thirty-five feet high, as the violent south-west wind shaves off their tops. At Little Sark we saw a wonderful natural chimney—the Pot—entwined by a wild, luxuriant, tangled mass of ivy and brambles. The result of marine and of atmospheric action in Sark and Little Sark is extremely well marked. The rain and storm, acting year by year on the soil and rock above, and the sea wearing away caverns, holes, and portions of the coast below, after furious gales (often lasting five or six days), accompanied at times by torrents of rain, fragments of the island become swept away by the raging waves. These storms are usually succeeded by bright sunshiny days of almost cloudless sky, pleasant soft south-west breezes, and that peculiar feeling of dryness and tone for which Sark is so remarkable. In fact, it is comparatively easy to reach, but it may be difficult to quit; but it takes some time for a tourist to exhaust the stock of wonders scattered through Great and Little Sark and Brechon; and the creature comforts of Sark, which the writer and his party found at Dixcart's picturesque hotel, were abundant and good. The island mutton, wild rabbits, and poultry, formed the staple sources from which dinners were provided, and bottled ale from Burton-on-Trent was to be had for the ordering.

A morning may well be employed in examining a picturesque bay on the west side of Sark—Seignie Bay—if the tourist does not object to descend along a zig-zag path from the summit of the land, 300 feet above the sea, to the shore below, with its silver-grey rocks.

A group of three detached rocks—called the Autelets, or Little Altars—projects into the ocean at one extremity of the bay, rising in pyramidal form, with so many irregular sides and angles, and almost covered by sea-weeds and artistically tinted lichens, that weird varieties of light and shade are ever to be found there. There is also a romantic little valley—Baker's valley—wooded on the usual Sark liliput scale, and running down to a bay justly famed for its pleasant and safe sea-bathing, and a favourite resort of tourists on early summer mornings.

The Gouliot Caves, celebrated in natural history, are remarkable oceanic recesses, which Neptune keeps lined with treasures of animal and vegetable life. Only at dead low water, and under favourable conditions of wind



THE AUTELET ROCKS.

and weather, is it possible to visit these "lions of Sark" with comparative safety and comfort. The descent down the cliffs is not easy, and the pathway terminates on large rocks plentifully clothed with black slippery sea-weed. However, by carefully picking one's way, the first lion, or great cave, a long natural tunnel, is reached. This fine cavern, of noble proportions, has its floor covered with large boulders, piled in irregular order, and forms an outer court to the picturesque inner caverns. These are a series of vaults, lighted from the sea, and the walls are covered with curiously-shaped creatures, some of blood-red colour, others different shades of yellow and dark green. Mussels, limpets, and shell-fish abound. There is abundance of sea-life to be seen, and rare specimens for the aquarium lovers.

The visit to the Gouliot Caves has to be hurried, for the caverns, with their sponges, corallines, and sea-anemones, are not safe as soon as the tide has begun to

rise, and wading, or being carried in the sturdy arms of the guide, is not satisfactory at all times.

Our visit to Sark was most pleasant, and we heartily wish that the island may continue comparatively deserted, with but a small, happy community of farmers and boatmen, courteous to strangers, and willing to show its curiosities. We trust it may not become a fashionable resort; then, probably, vices and disorders, now unknown would follow, and the primitive manners of the people be seriously injured.

The "Norman Archipelago," a glorious painting of Sark scenery by the well-known artist, Mr. Brett, was on exhibition at Manchester, and has been purchased by the Corporation of that "great city of the north."

At long intervals, extending often over a long series of years, the old Norse cry, "Haro-Haro, Rollo mon Prince, à mon aide, on me fait tort," may be heard in

extremely clean and neat, and possess much intelligence and refinement. Education was compulsory many years before it became so in England, and all the children are taught both French and English amid the beautiful scenery surrounding the school-house.

The scenic beauty of Sark about sunrise is unique. The rocks pierce the morning light in picturesque blackness; men pass to and fro with huge lobster creels; the trim wee dwellings, often thick with flowers to the roof, stand out in strong relief. The revolving light from the celebrated Casket Rocks throws lines of light and bars of radiance across the rippling, azure-tinted sea; while towards the left a bright burning light marks the entrance to Guernsey harbour. Other lights indicate the line of the French coast and the position of Jersey.

Sometimes the steamer (or *vapeur*) does not run. In such a case, tourists proposing to catch the Guernsey



THE BOULIGUER CAVERNS (VIEW LOOKING OUTWARDS).

Sark or other of the Channel Islands, as a means of obtaining redress of wrong. The Lord's Prayer has also to be repeated, and a court is called, and the complaint adjudicated at once. There is an ancient record showing that, in 1579, a Serequois—Jacques Vaudin—was fined for having *crié*, "Haro, et à l'aide de la Royne," without cause shown.

Much is quaint and beautiful at Sark. The Earl of Beaconsfield's favourite flower, the primrose, abounds, and the celandine is very plentiful. In the Seigneurie grounds, camellias and roses peep out from amid the palms and blue gum trees; while the black rats, partial to fruit, make sad havoc among the figs and other fruit trees, on which they emerge from their hiding-places among the headland gorse, dainty fringes of fern, and green ivy clinging to the steep sides of seaward hollows.

Children usually remain at the local school—a very good one—till about fifteen. They are well trained and

mail steamer, have to wend their way, about 5 A.M., to the moorings of the Sark cutter, and pass over the grey, azure-tinted morning sea, among the *Bec du Nez*, *Les Burons*, and other local rocks, away from Sark in its primitive beauty of flatness and sweep of plains of broad seas, to the busy scenes of town and city life in Guernsey, where they can catch the mail steamer.

The following lines from the Fourth Book of the *Odyssey* seem remarkably applicable to Sark:—

Now there is a rocky isle in the mid-sea,
Midway between Ithaca and rugged Samos;
Atteris, a little isle, and there is a harbour therein
With a double entrance, where ships may ride.

Sark has special ocean thunder and surge of its own. Its sweet-scented and bright-tinted earth in spring and summer time; its yawning chasms and steep precipices round its hollow shores, beat by the clear flood of Norman Archipelago waters (often indescribably bright),

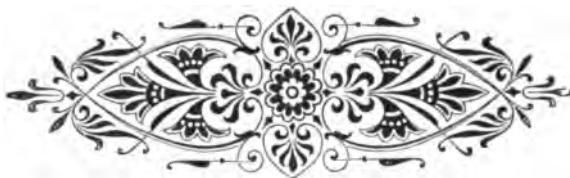
with its rich soil, may fairly contrast with the islands of the Ægean Sea.

The rich sunsets at Sark sometimes almost blind the eyes; the glare of pale gold, with a confused mass of silver streaks and sharp lines of blue radiating across the sky, and the almost dark liliputian landscape

nearer at hand, are incomparably beautiful in their majestic luxuriance. The tourist can compass walks in whatever direction he may proceed, supplied with Nature's materials—miniature hills, dells, meadows, woods, and rocks, skirted by the ever-restless ocean, like a mighty monarch of the scene.



TUNNEL ENTRANCE TO CREUX HARBOUR.



MILITARY BRIDGES.

BY F. J. STOPFORD, LATE 52ND LIGHT INFANTRY.

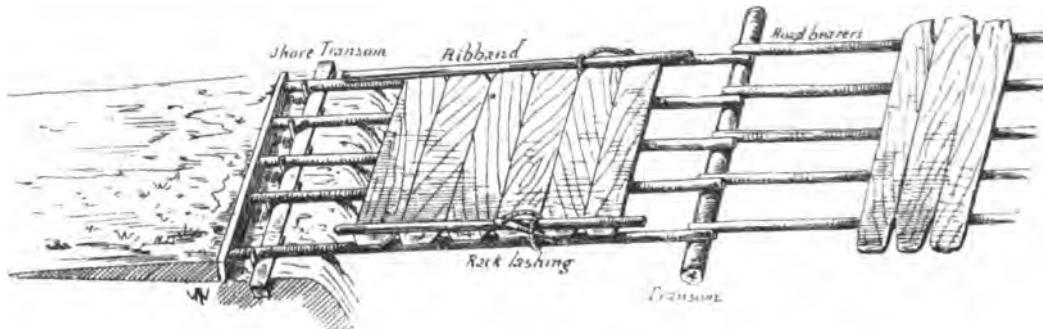


THE subject of military bridges has been usually treated in so abstruse and scientific a manner by the writers on that branch of field engineering, that it is come to be looked upon as one involving a knowledge of the higher mathematics and considerable technical experience; and, no doubt, such would be necessary where very heavy loads have to be dealt with, and where the maximum amount of strength has to be got out of the minimum amount of material; but for the passage of infantry in "fours," or of field-artillery, there are many kinds of bridges which can be constructed with very little skill out of any rough materials at hand, and, provided a few simple dimensions are remembered, can be made perfectly safe.

3. When the water itself can be used for a floating bridge, as in deep rivers, when pontoons, boats, casks, or rafts would be used.

We will commence the explanation of the construction of these bridges by a description of the "roadway," the part actually trodden on, as this is the same in all the military bridges.

The first drawing is one of the roadway so designed as to show the arrangement of the different parts. It will be observed that throughout the length of the bridge there are five beams, known as "road-bearers" or "baulks," resting on other beams which are called "transoms," the one sunk into the ground on the bank being called the "shore transom." At right angles to the road-bearers are placed planks, the ends of which are shaped off so as to allow a rope being passed between



ROADWAY FOR ALL MILITARY BRIDGES.

Let us first define the term "military bridge" as one that has to be constructed out of any trees, casks, boats, etc., which happen to be available. Wood and rope are the two materials which are almost entirely used, as stone and iron always require considerable time to work them.

It is usual to classify military bridges under three headings, viz.:—

1. When the bottom of the gap to be spanned is available as a support, in which case the bridges would be either trestle, pile, or crib. This would be the case when marshes, shallow streams, or ravines are to be crossed.
2. When the sides of the gap are available for support, when frame or sling bridges would be used. This type would be adopted to bridge a chasm, or repair a railway bridge.

them. To hold these planks down firm in their places and to prevent wheels slipping over the edge, two poles are laid along the ends, and fastened tight by a rope and stick, termed a "rack-lashing," by which they are attached to the outside road-bearers. These poles are termed "ribbands." The rack-lashing is a method of applying the principle of the tourniquet, the stick being used as a wedge, and is much superior to nails, dogs, or other iron fastenings, as it does not injure the wood and can be removed with great ease and used again.

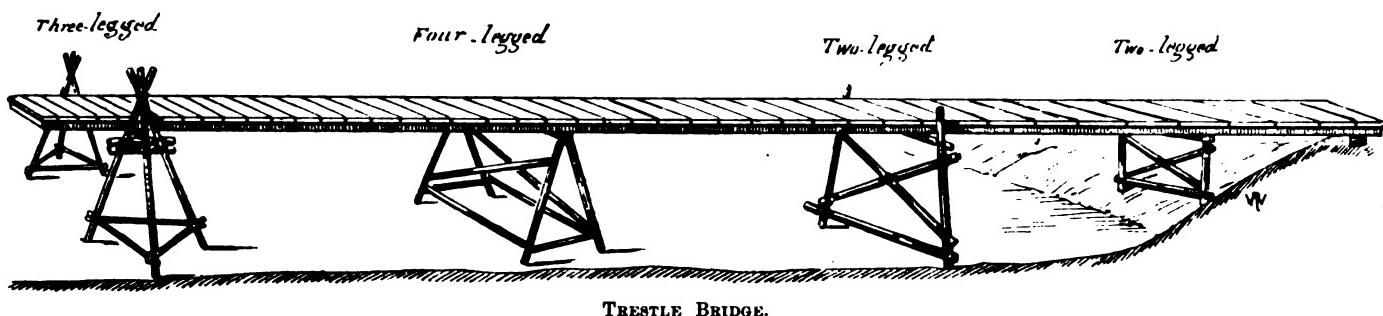
With reference to the roadway the following dimensions should be remembered. (1) The width between the ribbands should be nine feet, to admit infantry marching in "fours." (2) The road-bearers should be about 15 to 20 feet long and 6 inches in diameter at the tip. These will bear any ordinary load.

It is a good plan to put half an inch of sand or some

straw on the planks as it deadens the noise with horses and prevents their slipping.

Some care is necessary in arranging the portion of roadway that abuts on to the shore, and the method usually adopted is shown in the sketch. The beam, called a shore transom, is buried so that it just appears above ground, and on this the road-bearers are laid. This ensures their lying level, and so each one will have its proper amount of weight to support. A plank, resting on its edge, is then placed against the ends of the road-bearers, and the earth, carefully rammed, is built up

two slighter poles are lashed on to form the diagonals of the rectangle, and lashed together in the middle. Now, it is obvious that it is very important that the top horizontal beam on which the road-bearers will have to rest must be exactly placed so as to keep the roadway level throughout, and, for this purpose, the depth of water must be measured where the legs are to rest. To this should be added the required height of the roadway above the water, and that gives the distance from the butt that the top beam should be lashed to the upright. The trestle may be got into its

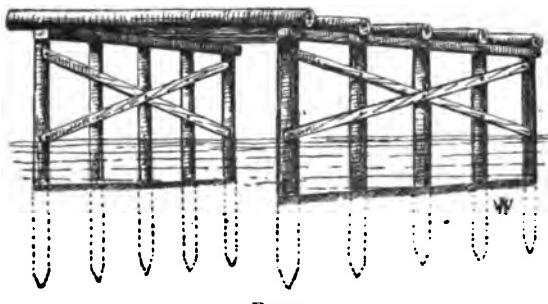


TRESTLE BRIDGE.

against it at a very gentle slope, and so prevents the wheels coming on to the bridge with a jerk.

Trestle Bridges

are the kind most generally adopted in places where the portion to be crossed is shallow, but they must have the ground firm where they rest, otherwise they will sink and so derange the roadway. It should also be level, for if not, it would be very difficult to keep the roadway level.



PILES.

The second drawing shows the different styles of trestle adopted. The small one on the shore is made by fitting in the pieces and fastening them with nails and iron dogs. This is, however, carpenter's work, and would have to be made by the pioneers. The second trestle is the simplest form that can be made, and requires only logs of wood and rope for its construction. It will be seen from the figure that it consists of two upright and two horizontal poles lashed so as to form nearly a rectangle, but having the tips of the uprights a little closer together than the butts. To keep it firm

position by men standing in the water if it is not too deep or the weather too cold, and this is by far the most convenient method, as they can hold it vertical while the road-bearers are being lashed on. This is sufficient to keep it steady until the weight of the planks etc. to form the roadway is added, by which means enough pressure is brought to bear on the trestle to keep it from shifting its position. Additional security in this matter is occasionally obtained by lashing adjacent trestles together by diagonal braces at the side. If the men cannot go into the water, boats can be used for putting the trestles in their places, and this would be adopted, if possible; if not, there is a third method known as "booming out." In this case the trestle is placed resting on two baulks, of which one end lies on the bank, the other on the bottom of the stream, so as to form an inclined plane, and then slid down into the water, and when its feet are in their proper position, tilted up vertically, and fixed there by the road-bearers. This is really more difficult than it would appear, as the trestle has generally to be shifted about a good deal before it is exactly square and level. This kind of trestle can be used in rivers up to six feet deep, and flowing with a swift current, as they offer but little resistance to the stream, and they can be used in greater depths where there is little or no current, as in lakes, the chief essential being, as before mentioned, a hard bottom for the legs to stand on.

Four-legged trestles may be made by the pioneers with their tools in the form shown in the drawing, but a simpler kind may be constructed without tools by lashing two two-legged trestles together at the head, and

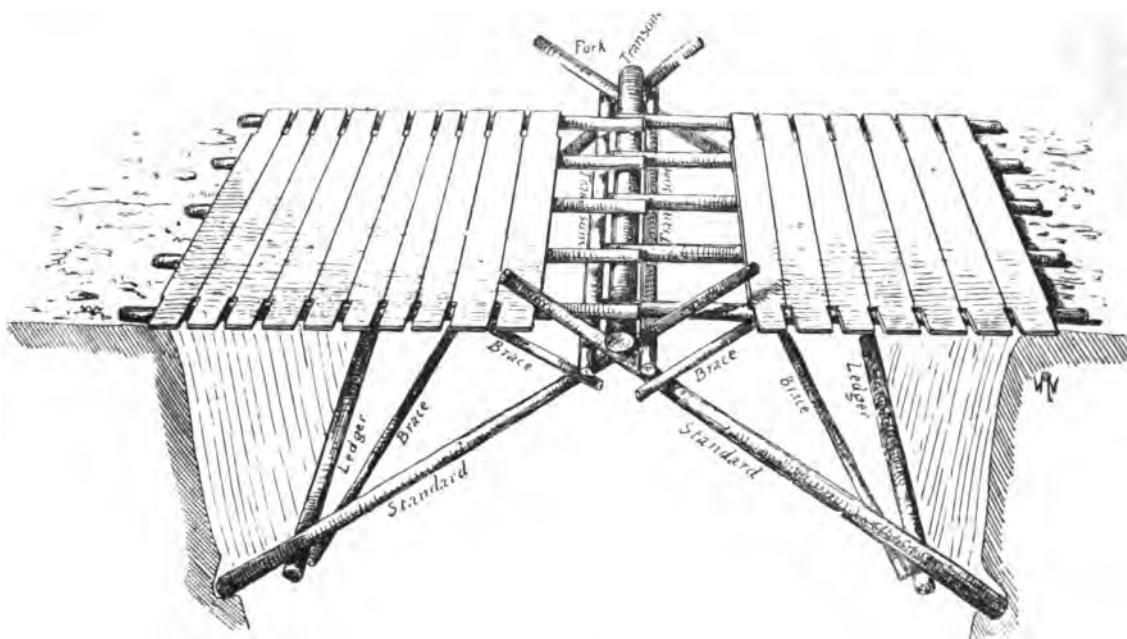
fastening the butts in their proper position at the foot by means of light spars. The distance apart of the feet should be half the height of the ridge of the trestle above the ground.

Four-legged trestles have the advantage of being more stable than two-legged, but they are more difficult to adjust if the bed of the river is not even, and they cannot be made of so great a height, as they would require such enormous spars and become so cumbersome and ponderous. They will have to be weighted if the water is deep, otherwise they might float.

Three-legged trestles consist of three poles lashed together at the head, with their legs forming about an equilateral triangle, and lashed in that position. The apex of the tripod so formed should be exactly over the centre of gravity of the triangle. Short beams are then

feet, and for the third not exceed three feet. It will thus be seen that the four-legged trestle can only be used alone when the circumstances are very favourable, but they are occasionally employed with two-legged to give stability to a long bridge. The river must not be liable to floods, which would wash away the roadway, as actually occurred once in the Peninsular war. In this case, a bridge consisting partly of boats and partly of trestles had been constructed across the Guadiana at Jerumena, and the troops were assembled ready to commence the movement, when a sudden rise of the river, to the extent of several feet, took place, and swept away the trestles.

The most famous instance of the use of a trestle bridge was at the passage of the Beresina, in 1812, on the retreat of Napoleon from Moscow with the wreck of his



SINGLE-LOCK BRIDGE.

lashed on to two of the legs, and on them rests the transom that is to support the roadway. This arrangement affords the great convenience that after the trestle is in position the transom can be adjusted at any desired height, and if one trestle sinks more than the other, the beams can be lashed accordingly, and the roadway so kept perfectly level. These tripod trestles would always have to be put in position by hand, as "booming out" is not possible in their case.

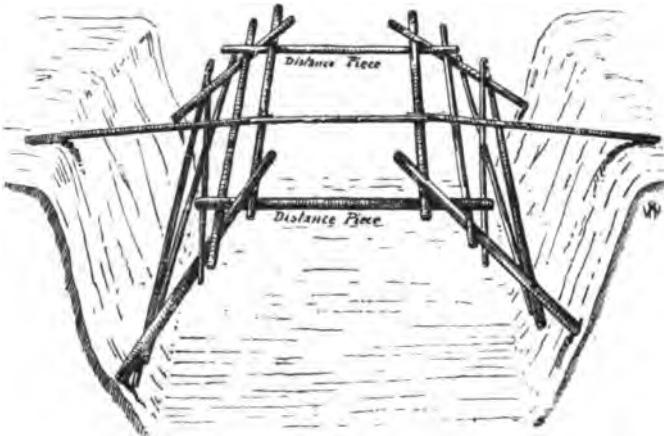
To give a general idea of when a trestle bridge would be suitable, the following data are useful; but it must be remembered that such bridges have been constructed at times under very unfavourable conditions. The river should not be swift, that is, not flowing more than four miles an hour for two-legged or three-legged trestles, and not more than two miles an hour for four-legged. The depth for the first two kinds should not exceed six

army. The breadth of the river was about 100 yards and the depth from 6 to 7 feet, the bottom was muddy, the current moderate, but much loose ice was drifting down. The cold was intense, and as no small boats could be obtained to facilitate the work, the pontoniers were obliged to remain in the water throughout the operations, and nearly perished with cold. Two bridges were constructed out of the trees cut down on the spot, and the materials obtained from the demolition of houses, and they occupied about eight hours in making. One of them stood firm all the time the troops were crossing. This was one for cavalry and infantry only. The other, for wheeled traffic, broke down three times, but was repaired and lasted until the approach of the Russians compelled Napoleon to have both bridges burnt, leaving vast quantities of ammunition, artillery and baggage, thousands of men, and many women and children, to

the mercy of the enemy and to the rigours of the climate. It is strange to contemplate the influence those trestle bridges have had on the subsequent destiny of the European nations. Possibly, but for them, there would have been no Waterloo.

Pile Bridges

are very simple in the principle of their construction, and the drawing is sufficient to explain the general arrangement, but they can actually be very seldom attempted in hasty operations on account of the enormous labour of driving the piles. They usually consist of piers placed about twelve feet apart, each pier made by driving five piles into the ground, fastening them together with braces and fixing on the top a beam, on which rest the road-bearers. These piles have to be driven in by means of a heavy weight, usually a shell filled with lead, attached to a rope working over a pulley. Men standing in a boat, or on a raft, raise the weight and then let it drop on the pile. But all this requires



ARRANGEMENT OF SPARS FOR DOUBLE-LOCK BRIDGE.

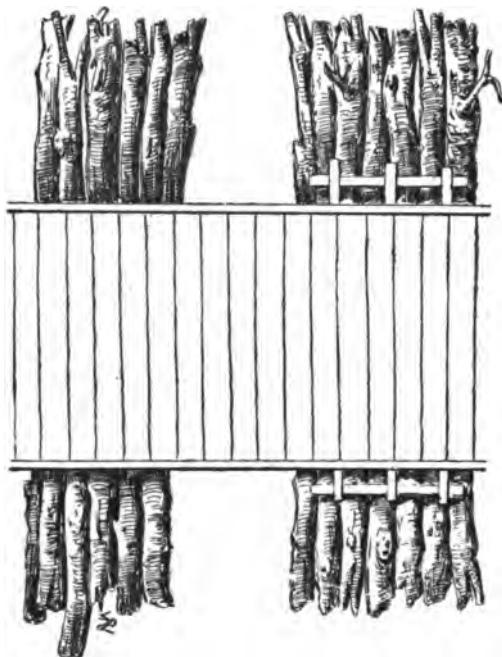
scaffolding and other special constructions to enable the men to work, and an easier method is to attach two baulks by lashing to the head of the pile, with their ends resting on the bank of the stream. On them place planks for two men to stand upon, and let them drive the pile home with mauls. This does not require any special material, but is difficult to manage in practice.

Pile bridges can be used in rivers having a soft bottom, provided the depth is suitable to the length of pile available, usually not more than 15 feet, which would allow a depth of water of 5 or 6 feet. They are exposed to dangers from which they are not easily protected, and form, altogether, a very uncertain form of communication. The piles, though firm at first, are liable to be undermined by the stream and, should the river rise much, the roadway would be washed away. Moreover, unless great care is taken to guide drifting matter between the piles, the shock of impact will soon derange and eventually destroy a pier.

Crib-bridges are stacks of logs built up to the required height and the roadway laid on the top of them. In the place of logs, gabions and fascines are sometimes employed. These bridges are perfectly simple to construct, and are very often convenient when plenty of timber is at hand. They were used out in Ashanti.

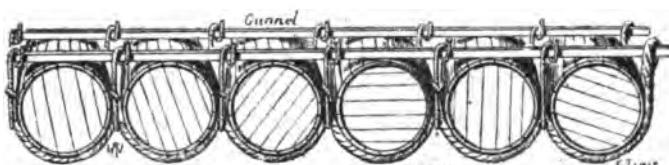
Frame Bridges.

Frame bridges are those made for small deep gaps, as, for instance, when one arch of a high masonry bridge



RAFTS.

has been blown away. The simple kinds are Single Lock and Double Lock; and though there are some others of a similar construction, they are too elaborate to be described in this article. The frames used for these bridges are all of exactly the same form, though differing



A PIER OF CASKS.

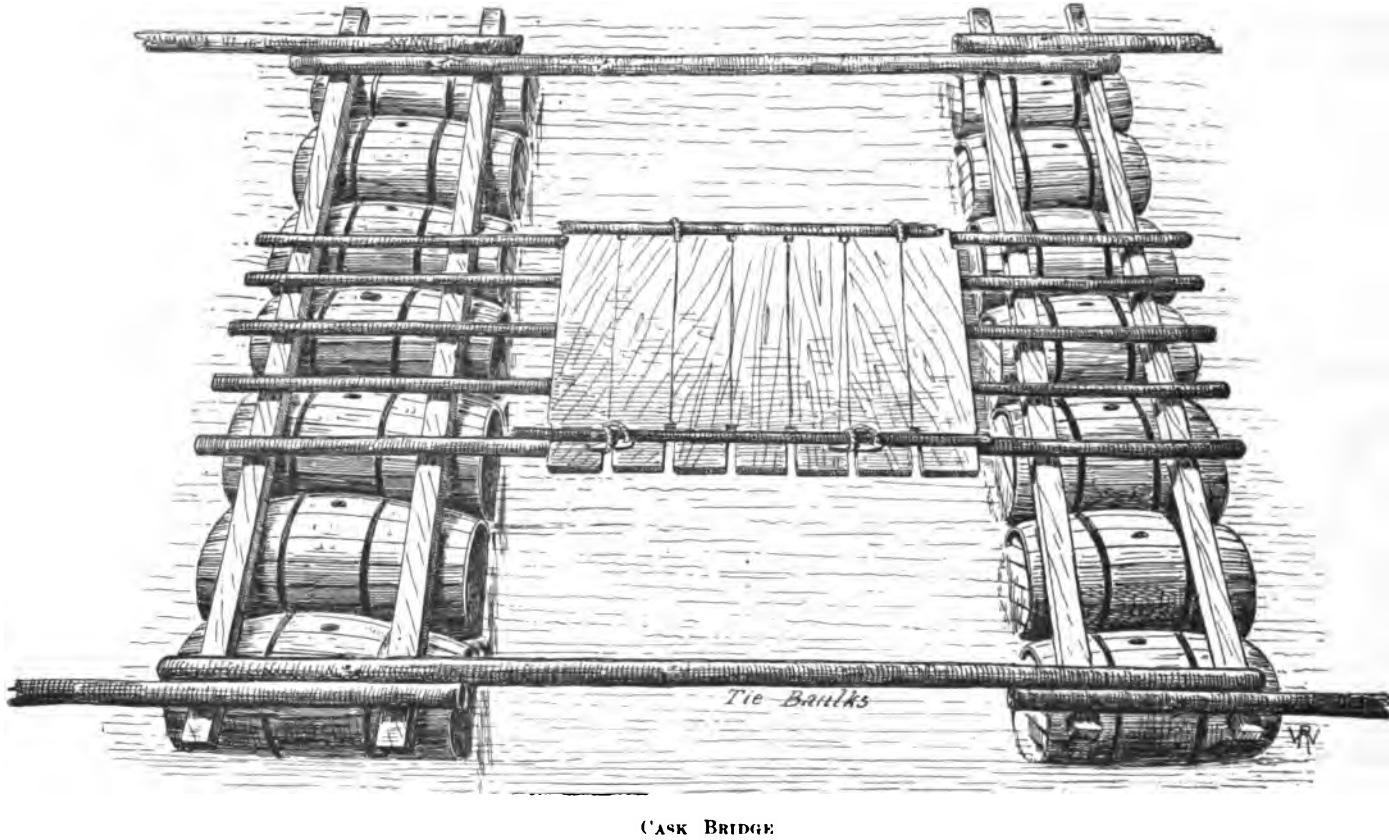
slightly in size, and are very similar to the two-legged trestle. They consist of the two upright spars, called "standards," to the upper part of which are lashed the transoms, and the lower part the "ledgers," the whole frame being made stiff by the diagonal braces. The differences between this and the two-legged trestle are these:—In the two-legged trestle, the ledger and transom are both on the same side, and the inclination of the standards inwards is at a slope of $\frac{1}{4}$, whereas in the

frame for a lock bridge, the ledger and transom are on opposite sides, and the inclination of the standards very much steeper, about $\frac{2}{3}$ °.

As the safety of these bridges depends, in a great measure, on their being made to fit accurately, it is very important to place each transom at exactly the right spot on the standards; for if it is placed too low, the roadway would dip in the middle and be very unsafe. To effect this, a section of the gap must be laid out on the ground, and by using blocks of wood to represent the transoms, their proper position can be chalked on it. In constructing the frames for the single lock bridge, the inner one must be made 18 inches

then placed, resting on the fork formed by the standards, and the roadway can then be completed. In the case of a double-lock bridge, the frames, after being lowered, are kept in position by ropes fastened to their tips, and when the distance-pieces and road-transoms have been lashed in their places, the bridge is allowed to lock.

These two bridges are clearly only suitable to small spans, for in any bridge the distance between two supports—technically known as a “bay”—should not be more than 15 feet, and so a single-lock bridge cannot be used for more than 30 ft. span, or a double-lock for more than 45 feet. Moreover, care must be taken that



CASK BRIDGE

narrower than the outer, so as to pass in the gap, and the usual dimensions are 9 ft. 6 in. clear between the standards of the less, and 11 ft. between the standards of the greater; for the double-lock they are both made the same size. The drawings of the two bridges show the arrangement of all the spars which are retained in that position by lashings, which are omitted in the diagrams, in order not to confuse them by inserting too much detail. When the frames for a single lock are finished, they are lowered into position, and the feet kept steady, while the tips are hauled by ropes attached to them over towards the opposite bank. When the two frames meet, they lock together and make a very strong arch. A stout beam, called the “fork transom,” is

the angle of the arch is not too oblique, and, as regards the triangle formed by the two feet and the fork transom, the perpendicular must be at least $\frac{2}{3}$ of the base, or, in other words, the slope of the frames must be steeper than $\frac{1}{3}$. Bridges constructed on this principle appear to belong to comparatively modern times, as the older writers do not speak of them as being used on ordinary occasions. On the other hand, being only suitable for very narrow gaps, it is possible that they have not recorded their adoption, as not being of sufficient importance. They are, however, so simple that they can be made by unskilled men, if superintended by an officer, who can see that the proper dimensions are adhered to, and they are so strong that

it is very seldom that any accident occurs with them owing to faulty construction.

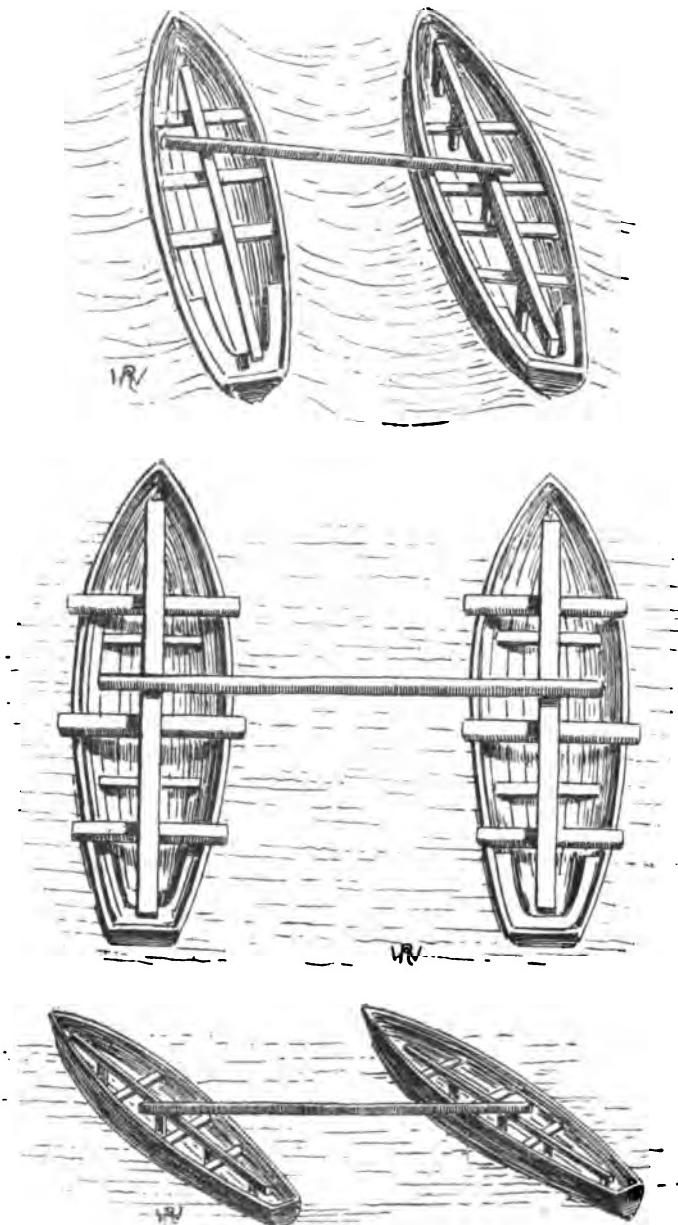
Floating Bridges.

Bridges of this nature are most commonly employed for the passage of large bodies of water, inasmuch as the depth is, of course, immaterial so long as it is sufficient to float the vessel. To all European armies a pontoon train is now attached, but as this kind of bridge is only meant to be made by men specially trained, it will be sufficient here to say that a pontoon may be described as a large punt partially covered in, and with a stout beam running down the centre, raised above the level of the sides, on which the road-bearers rest. The pontoon can be rowed as an ordinary boat, and is so constructed as to give the greatest possible buoyancy for its size. The bridge will admit of the passage of vehicles weighing 5½ tons.

Raft bridges are the simplest of all floating bridges, as they consist merely of logs lashed together, and the roadway placed on them. The labour, however, of cutting down the trees, is very great, trimming them of their branches, and dragging them down to the water and lashing them together when there. They have, moreover, little buoyancy, and they lose a good deal of that by being kept in the water as they get water-logged; for example, the buoyancy of a 108-gallon cask and a log of pine-wood 20 ft. long and 6 ft. in circumference is about the same, viz. 1,100 lbs., whereas the weight of the former is 174 lbs. and of the latter is 2,300 lbs. On the raft, when formed, a sort of platform may be usefully placed to keep the roadway level, as shown in the drawing. Sometimes, in order to obtain sufficient buoyancy, the logs have to be built in two layers, as the interval between any two piers in a floating bridge must always be equal to the width of a pier itself, so as not to obstruct the flow of water too much, and it is a good plan to have the head of the raft shaped like a triangle, with the apex pointing up-stream. These bridges have the great merit of not being easily destroyed by artillery, for a shot that would totally wreck a boat or pontoon would only make a hole in a raft, and beyond a trifling diminution of buoyancy, do no harm at all. There are numerous instances of this means of communication being employed for the transport of large bodies of troops across rivers, and when once strongly built, such a bridge will last for a considerable period. Probably the largest ever made was one across the Danube for the passage of the Russian army over that river in 1854. In this the rafts were made of such a size, that the roadway was 14 feet wide, and, in addition, there was a path for foot-passengers, 2½ feet wide, by the side.

Cask Bridges are the next to be considered, and they may be looked upon as the most important of the float-

ing bridges so far as concerns all officers not professionally engaged in field engineering; for casks are generally easily obtained—large numbers being always in possession of the Army Service Corps—and can be manipulated with less difficulty than common boats. The principle adopted is to form the casks into a pier, as shown in the drawing, by placing them in line, bung uppermost,



METHODS OF ARRANGING THE SADDLE IN A BOAT,

and laying on them near the ends two baulks, termed "gunnels." To the ends of these are fastened strong ropes (slings) which pass under the casks. In the interval between every two casks a smaller rope, called a brace, is fastened first round the sling, then given a turn round the gunnel, passed round the brace opposite and hauled taut. It is then made fast to the same gunnel. Throughout the operation as much strain as

possible is brought on the brace, and, thus, the sling obtains the form shown in the drawing. By this means the casks all become fastened together, and can be carried off and put in the water in their proper place and the roadway completed as in the drawing of a portion of the bridge. To keep the piers in their places they must be anchored, some to the shore, and some in the river, but additional support is given by means of the tie-baulks, which are lashed to the extremities of the gunnels. These tie-baulks are shown in the sketch, but the lashings are not inserted, in order to keep the arrangement of the spars distinct. To give some idea of the amount of buoyancy obtained, it may be stated that seven casks about four feet in length will bear any weight that can be brought on them by disciplined troops, if the piers are not more than twelve feet apart.

Bridges of Boats are the last with which we shall deal, and, inasmuch as each boat may be considered as a pier, the only point to be dealt with is how to rest the road-bearers on the boat. Now, if they were placed on the gunwale of the boat, the moment the weight came exactly over that gunwale, the boat would be tilted up, and probably capsize; so down the centre of the boat is placed a beam, known as a "saddle," raised well above the sides of the boats, and resting on supports attached to the keel. Thus the whole pressure will be brought on the centre of the boat, and, moreover, if it should rock from any small swell there may be, the road-bearers would still keep level, as may be seen from the sketch. But to make such a saddle as is here described would be extremely difficult for unskilled workmen, and so a third drawing is given, showing how the saddle may be made to rest on short baulks placed across the boat. This is a far simpler mode of arranging the saddle, but

cannot be looked upon as safe if there are any waves in the river. As a good deal of oscillation occurs by the movement of troops across a bridge of this nature, the length of the boat should be at least double the width of the roadway to resist the inconvenience; therefore no boat should ever be used less than eighteen feet in length, and should be a good deal longer if possible. They are kept in position by anchors. A very famous instance of a boat bridge being ingeniously constructed occurred when Napoleon crossed the Danube at the island of Lohau in 1809. In this case the bridge was built out of fourteen large boats placed about thirty feet apart, and was made complete in a little winding creek behind an adjacent island. It was then floated down the river; but as the creek twisted a good deal in its course, the bridge had to be made so as to wind in and out. When it came into the river, the downstream end was held firm as a pivot, and the entire bridge then swung across to the other bank, each boat being anchored as it came into position. The process of swinging only occupied about five minutes.

The above explanations are sufficient to show that the art of bridging should not be looked upon as a part of the duties of Royal Engineers alone, but as an interesting study within the capacity of every infantry and cavalry officer, and one that would be extremely useful in war. Provided that sufficient materials would be supplied, there is no reason why every regiment should not practise making these simple bridges, and so take one more step towards removing the idea so universal in our army, that everything requiring any intelligence to understand, or any ingenuity to construct, is beyond the powers of the ordinary regimental officer.

F. J. S.



DOGS IN WAR.

BY THE EDITOR.

"Cry Havoc, and let slip the Dogs of War."—
JULIUS CÆSAR, Act 3, Sc. 1.



THE employment of dogs in war dates from remote ages. The antiquarian notes that at the battle fought under the walls of Mantinea, between the Spartans and Thebans, B.C. 362, dogs followed the natural bent claimed for them by the late eminent divine Dr. Watts, and delighted to bark and bite in the interest of their masters. Plutarch has placed on record the fact of a Greek garrison so demoralised that the enemy determined to carry it by assault. A dog on the ramparts, however, saved the town. Running hither and thither, barking furiously, he aroused the inhabitants, who stood to their arms, and warded off the impending disaster. Alyattes, King of Lydia (B.C. 617), is said to have used many trained dogs in his expedition against the historical Cimmerii, who dwelt on the Palus Maeotis, in the Tauric Chersonesus, and in Asiatic Sarmatia. Passing by a cursory mention made by Pliny, of a King of the Garamantes, who, having been deposed, recovered his throne by the aid of dogs, we find that the Magnetes were renowned for their breed of warlike dogs, and that the Roman Legion feared the bite of these redoubtable companions of the Cimbri.

Vegetius, the author of a treatise *Rei Militaris Instituta*, dedicated to the Emperor Valentinian II. (A.D. 375), states that it was the custom among the Romans when on outpost duty to be accompanied by dogs of a fine and subtle smell, who, scenting the enemy from afar, gave notice of his advance and aroused the camp.

Among the relics of Herculaneum may be seen a large basso-relievo representing dogs in armour defending a Roman port attacked by barbarians.

Coming to more recent days, it is recorded that Philip V., King of Spain, having served out some rations of bread to a pack of dogs which he found gnawing the gates of Mont-Philip, had the pleasure of enlisting the animals into his service, when they became useful as sentinels and invaluable as patrols. If the Austrians attempted a sortie from Orbitello, these animals protested against their advance by barking, and soon had the troops under arms. In advancing to the attack, these dogs went before, and by scouting ascertained the position of the enemy.

The value of dogs in war did not escape the great mind of Napoleon. Writing to Marmont, 21st January, 1799, shortly before the battle of Aboukir, he says:

VOL. VIII.

"There should be at Alexandria a large number of dogs, which you ought to be able to employ by massing them in groups at a short distance from the walls."

The famous French dog, Moustache, is of world-renown. He took part in nearly all the wars of the Consulate, and of the First Empire, and distinguished himself by the side of the French soldiers on many occasions. During the Italian Campaign (1800) a detachment of Austrians, sheltered in the Valley of the Balbo, advanced by night to surprise the French, and possibly might have succeeded in the attempt had not the ever-watchful Moustache detected the movement and given notice of their advance. On another occasion Moustache is given credit for having detected an Austrian spy disguised in the French camp. At the battle of Austerlitz the standard-bearer of the regiment to which this dog was attached was struck down mortally wounded. Moustache with his teeth seized the tattered colour as it was about to be snatched by an Austrian soldier, and bore it triumphantly to his own company. History records that as a recompense for this splendid deed Moustache was decorated in front of the battalion by Marshal Lannes.

Many instances might be quoted of the signal services rendered by dogs in different military expeditions. In Africa especially they were frequently employed by the Arabs against the French. The Kabyle dogs are, as a rule, savage, half starved, and have by instinct a hatred of everyone who does not wear the burnous. Consequently a slight training only was required to make them hostile and dangerous to French troops.

A French officer who went through the South Tunisian campaign, 1881-82, relates how a dog, adopted by his regiment, gave the alarm on more than one occasion. So soon as he saw an Arab, even a long way off, barking furiously he flew at him. With the extraordinary fine sense of smell for which his breed was noted, he could distinguish an Arab from a Spahi or Turko.

The *France Militaire* (May 1886) mentions a case not less curious, of a dog named Zourbi, which went through the Tunisian campaign with the 119th Regiment of the Line. The vigilance of this animal was only excelled by his fidelity. By night he ably assisted the sentries in guarding the camp.

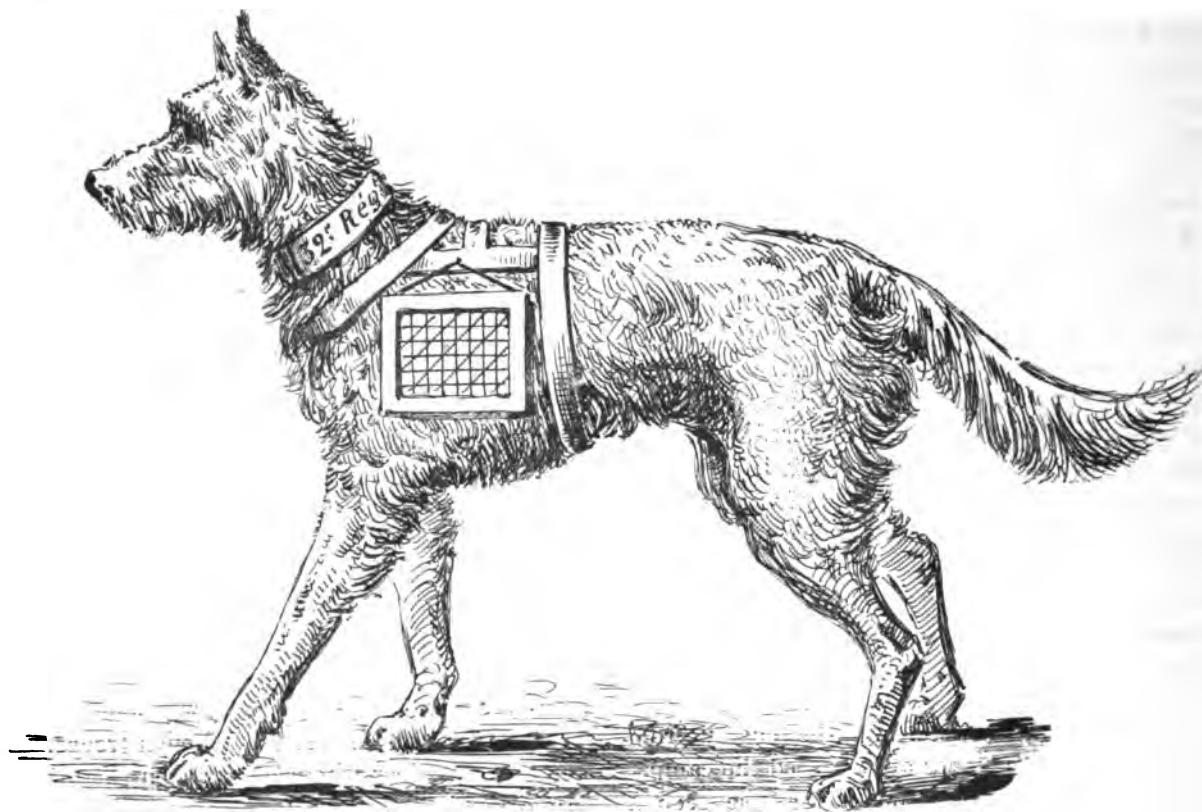
The Austrians have trained dogs for use in warfare, and find the Dalmatian breed peculiarly fitted for this purpose, and it will be within recent memory how General Skobelev, in his attack on Geok-Tépé, furnished the Russians with watch-dogs to accompany the out-

posts. This step became necessary on account of the fearful surprises effected by the Turkomans during the siege of their capital.

The Germans, ever ready to adopt any measures to render perfect the art of war, have not, until lately, turned their attention to the employment of dogs in war, so as to organize their services on a system. The first trials made in this direction came off at Goslar two years ago, and since then they have been repeated with success in many other garrisons. The administration of the service devolved on the General Commanding the 4th Army Corps, and, on starting, it was determined to quarter the dogs at advanced posts established beyond inhabited places.

Last year General Von der Goltz inspected the 3rd Jäger Regiment, to report on the advantages (or otherwise) that might accrue from the employment of dogs in war. After a careful inspection, General Von der Goltz found the dogs well-trained, and reported that they delivered their despatches, under varying conditions, and often in the face of many obstacles, with unerring fidelity.

Following the example set by the Germans, the French are now fully alive to the important rôle that dogs may play in war. Already their value has been recognised in the French army, but up to this their use has been more permissive than obligatory. However, the most elementary prudence compels our neighbours to



WAR DOG AS AMMUNITION CARRIER.

More recently, after the manœuvres of 1886, the 3rd battalion of Jäger quartered at Lüben, were ordered to have dogs attached to their regiments.

The dogs are specially trained for outpost duty. They are taught to run from the pickets to the sentries and back, carrying round their necks a small leather letter-case, containing despatches. Secondly, by night they are attached to the sentries to give warning of the approach of the enemy.

In the employment of dogs in war the Germans are, as in other military matters, far in advance of all other European nations. Velocipedes, pigeons, and dogs are pressed into their service, and all used with admirable effect; in other words, they get all they can out of them.

follow the course already traced by the Germans; and as most European armies recognise the necessity of enlisting dogs into their service, the French cannot afford to hold aloof in this movement.

On the employment of dogs in the French army a valuable addition has been made to the military literature of the day by the publication of *Les Chiens Militaires dans l'Armée Française*, by Lieut. Jupin, of the 32nd Regiment of the Line.* In this very entertaining volume the author reviews at some length the disastrous campaign of 1870-71, and attributes many of the French reverses to a series of surprises. Notably are mentioned the affairs at Maison-Blanche and Ville-

* Paris: Librairie Militaire Berger-Levrault et Cie.

Évrard (21st December 1870), Autun (1st December), Chambord (9th December), and Sombacourt (29th January 1871).

In the following estimate of the capabilities of the French soldier for sentry and outpost duties the author asks:—

What deductions, then, can we draw from a study of these calamitous events? If we reason without bias, it is evident that of all our reverses, the greater number are attributable to certain defects of French temperament, on which many military writers have often dwelt. This national character, a heritage from our forefathers, has left its mark on all the epochs of history. It is to be found in all grades of the army, in the highest ranks as well as in private soldiers, and it is vain to deny its existence or to try to change it.

where his indifference to danger invites surprise. When beaten, he loses all confidence in his bright particular star, confesses his inferiority, and in the lowest depths of despair accuses his chiefs, and cries, as in 1870, *Nous sommes trahis*.

The above is not a fanciful estimate of the qualities affecting the *moral* of French troops. Military writers of different periods, to wit, Montluc, Feuquières, Santa-Cruz, De Folard, Marshal Marmont, and General Trochu cite many instances, showing in their true light the temperament of the French soldier, with his merits and shortcomings.

"A consideration of these facts," continues Lieut. Jupin, "will account for our disasters." At the beginning of the war of 1870, scarcely any precaution was taken, as success was deemed certain, and in all surprises



WAR DOGS IN THE GERMAN ARMY.

Traditional valour and undaunted bravery are qualities which France's enemies have never denied to her troops. The fact notwithstanding, the French soldier possesses some defects which it is important to correct.

The German, as well as the English soldier, is phlegmatic, cool, and methodic. Both possess that tenacity of purpose so well personified in the characters of Blücher and Wellington, which has contributed not a little to their past successes. The French soldier, on the other hand, is nervous and impressionable. His bravery, like that of the Russian, is legendary. Success with him electrifies and intensifies his forces, while on the other hand a reverse is tantamount to demoralisation. In victory he is incomparable, but too often disdainful of his enemy, especially on outpost duty,

the Prussians had the best of it. Repeated success emboldened the enemy. The French troops became demoralised by first reverses, and the sudden approach of a few Uhlans sufficed to cause a panic. Had French troops been provided with dogs well trained in peace time for war purposes, they would have proved valuable auxiliaries in rendering incontestable services. With their aid, how many surprises might have been prevented!

It is generally admitted that the French soldier, notwithstanding his many great qualities, lacks the bump of caution. The greater reason, therefore, exists to furnish him with some help to supply this deficiency. This help is forthcoming in the "military dog." With his assistance French troops no longer need fear false alarms and surprises, with the fearful wreckage follow-

ing in their wake—confusion, disorder, demoralization, and consequent defeat.

Night surprises have been attended by such fearful consequences that in every age means have been taken to guard against them. Among the Romans, as is well known, every soldier carried, in addition to his arms, a pile or stake, which was used at night in the construction of a fortified camp. Under the protection of these palisades, men and officers could sleep in safety, and a few sentries only were required to insure complete immunity from surprise.

With the extended range which outposts occupy with a modern army in the field, it is of vital importance to supplement the vigilance of the French sentry, the more so, as their enemies state, and they themselves admit, that they are at a disadvantage in the dark. "Night

Neuville, Beaugency, and the Park of Chambord. On the 21st of January they retook Le Bourget by a night assault, and on the 9th, 16th, 24th, and 30th of January they were similarly engaged at Villersexel, Chenebier, Dijon and Frasnes.

These instances abundantly prove to Lieut. Jupin that night attacks will be freely resorted to in any future war. "When our adversaries come across a strongly fortified position, the carrying of which in broad day would involve fearful sacrifices, they will more probably try by a night attack to dislodge our troops, and occupy positions which will present solid advantages in the morrow's fight. While we guard against surprises we must not overlook ambushes, which may in the future be carried out with vastly increased effect owing to the discoveries made by modern science.



WAR DOGS IN THE OUTPOSTS.

attacks," said Prince Frederick Charles, "are unsuited to the French. They seem to dread them, and without doubt darkness easily turns their habitual disorder into a complete rout."

A catalogue of night attacks carried out by the Germans will be instructive. The first of these *coup de main* was directed against Thionville the night of the 14th–15th of August, and similar operations were frequently tried up to the close of hostilities. On the night of the 29th–30th of August the Prussians tried to carry the bridge of Mouzon. On the 30th of August, after the battle of Noisseville, they attempted another night attack. On the nights of the 6th and 20th of October, and on the 2nd, 8th, and 10th of December, they carried successively Saint Dié, Étrépagny,

The employment of smokeless powder may render it impossible to say whence an attack has come. Trained dogs would then be a necessity to discover the position of the invisible enemy so as to attack him in turn." In every view of the question, as Lieut. Jupin remarks, the *chien militaire* is destined before long to take a considerable share in co-operating with troops, and especially with sentries, and he proceeds to show the different ways in which the services of dogs can be utilised in warfare.

DOGS ON THE MARCH.

Marching, bivouacking, fighting—campaigning may be resolved under these three heads. The most competent military authorities consider the marching power of troops of the highest importance. Fighting occurs but

seldom during a campaign, while, on the other hand, marches are of daily occurrence.

Three essentials are necessary for marches to effect good results. Rapidity and security, which are seldom obtained save at the expense of the third, which consists in the faculty of husbanding one's resources, reducing fatigue to a minimum so as to lessen the number of stragglers, reserving all the soldier's forces in the event of battle. To rapidity of movement, France, at the beginning of the century, owed her signal successes, and the great Captain of the day often said, "Qu'il gagnait les batailles bien plus avec les jambes de ses soldats qu'avec ses bras." By this he meant that rapidity in marching assured the execution of his combinations, and enabled him even with inferior forces to have a numerical superiority on the battle-field. Such results, however, were not acquired without enormous losses. As the Marquis de Chambray says in his *Philosophie de la Guerre*, "Napoléon 1er est le général des temps modernes qui a fait exécuter le plus de marches forcées. Elles contribuèrent sans doute à ses succès, mais elles furent aussi la cause principale des pertes énormes qu'il éprouva par la maladie."

Baron von der Goltz, in giving the figures of the sick and wounded Germans in the campaign of 1870-71, computes the former at 400,000, the latter at 100,000. In this 400,000 were reckoned great numbers of soldiers treated for sore feet and other abrasions of the skin, caused for the most part by long and rapid marches. The great difficulty consists in being able to bring into the field the greatest number of men in the best possible state of health. Napoleon, with a full appreciation of the value of the smallest details, would often pass hours in discussing with common cobblers the faults or merits of boots of different patterns, and the best way in which the nails should be distributed in the soles.

Marshal Bugeaud, one of the most conspicuous of the military personages in the age after Napoleon, soon realised, on taking the command in Africa, the necessity of altering the tactics that had previously been employed against the Arabs. With an enemy like Abd-el-Kaber, who defied capture, he increased the mobility of the French infantry, and reduced the weight the soldier had to carry. For this purpose he organized trains of mules which relieved the troops of much superfluous equipment. The marching powers of the French troops were thereby materially increased, and the revolted tribes, unable to escape by flight, had no alternative but to submit.

Taking the above considerations for his text, Lieutenant Jupin proceeds to observe that in a column unprovided with cavalry the duties of the infantry's advance-guard are complex and difficult, and the best seasoned men often fail to carry out their work satisfactorily. In a country deeply intersected and close to

the enemy, those engaged in scouting are frequently called upon to undergo fatigues wholly incommensurate with results. In advance of the column the scouts should be ever ready to double out and reconnoitre a thicket, a house, or a ravine, and, afterwards, with as little delay as possible, fall into their places so as not to retard the march of the column.

A hilly and thickly wooded country affords the enemy the best opportunities to attempt *coup de main*, and working through such ground the labour of scouting is arduous. To reduce danger, recourse must be had to a system which will lessen the work now done by the advanced guard, increase their confidence, and insure to the troops on the march protection and a greater rapidity of movement. The dog is eminently adapted to share the labours of troops on the march; with his marvellous instinct he will run at the order of his masters, carry out their bidding, and save them untold work. Working with sentries and patrols, he will play a part similar to that which now renders him so indispensable to Custom House officers in dogging the steps of contrabandists and discovering the dépôts of their smuggled goods. Well trained in peace time, the dog employed on active service would know how to distinguish the enemy's soldiers from peasants; so in a village he would pass by the inhabitants without noticing them, and direct all his attention to searching for the enemy. This is precisely the rôle played at present by smugglers' dogs, which in the middle of the country and at a long distance off, unerringly distinguish Custom House officers from any other persons, and shape their course accordingly.

Dogs as Estafettes.

Experience gained in recent campaigns has proved beyond doubt the extreme importance of keeping up constant and rapid communication between the different fractions of an army and head-quarters. The different systems used in their day rendered signal services to the Americans during the War of Secession; to the army of Paraguay in its struggle against the Brazilians; to the Germans in 1870-71; to the English in Afghanistan, Zululand, and Egypt; to the Russians in their war against Turkey; and to the French in Tunis and Tonquin where, at the last named, rapid communication with the front often averted disaster.

The systems employed up to this may be classed under three heads, according as the distances involved are long or short. Communications are generally kept up by cavalry or by telegraph, heliograph, or by flag-signalling. Doubtless the transmission of intelligence and despatches by cavalry orderlies would, under all circumstances, be the best method; but cavalry cannot always be spared for this duty, the calls upon its services being numerous and constant. The infantry then should be able to rely upon itself for a rapid and certain means of

sending messages from the advanced guard to the commander of the column. On the march "touch" is frequently kept up by men detailed at certain intervals; but this method is unsatisfactory, especially for the transmission of verbal messages. Repeated from one to another, the intelligence often reaches its destination in a garbled form, or with a wholly inverted sense. The Germans are fully alive to the necessity of improving existing means of communication, and for over a year past have been training dogs to act as *Estafettes*, and their renewed experiences in many garrisons (notably at Lüben, and in some towns of Alsace-Lorraine) show that the system works well, and will be permanently adopted. The Germans, however, up to this, employ dogs only to communicate between outposts. The French aim at a more extended use of the animal, and advocate the em-

needless trips, and no mistakes can well be made, as the despatches are necessarily always written.

It is not contended that with the employment of dogs in war signalling should cease. Dogs would supplement the other systems now in vogue, and if a regiment were deprived of all other means of communication, it could always fall back upon the dogs. Especially valuable would the dog's services be in face of a river where neither bridge, boat, nor ford was existent. The *Estafette* dog trained to swim would carry over the despatch. Such are some of the many offices the dog could perform on the march. His help would insure a greater mobility for the infantry in expediting the work of scouting; it would greatly reduce the fatigues of sentries, and establish a rapid communication between the different fractions of the columns.



THE ESTAFETTE DOG.

ployment of dogs as a connecting-link between marching columns.

The communication is always in writing on a small card or scrap of paper, stating in a dozen words the situation, the position and strength of the enemy, and what should be done. This despatch is put in a small metal case and fastened to the collar when the dog is sent to his destination, having been well trained to run to a flank until he comes in sight of a soldier. This man, seeing the dog carrying a despatch, reads the address, and, if not for his own party, he again indicates the animal's direction, and so he is instructed until he arrives at his destination. This method presents one great advantage; men and horses are spared many

TRAINING.

The necessity of employing dogs in wars of the future being assumed or admitted, it first becomes a question how they are to be distributed through a regiment and its different companies. It would be possible to have kennels in every barrack at the side or in rear of the stables; but this plan does not commend itself, and presents many disadvantages. To begin with, were the dogs congregated in kennels, their barking would become a serious nuisance in quarters. A stronger reason is that the dogs should seldom or never be separated from their masters, so as to receive a thorough training, and to be always subject to discipline. A better plan would be to let the officers and men fond of dogs in each

company volunteer to keep and teach them. The demand would exceed the supply. The question of lodging would be easily solved, for each master would house his own animal, and a healthy rivalry might be excited throughout the regiment as to who could turn out the most highly-trained dog.

It may, perhaps, be objected that these animals, accustomed to live with the one master, would refuse to follow, promiscuously, soldiers sent out as patrols, or remain with sentries strangers to them. Experience proves otherwise; the regimental dog is "hail fellow well met" with all the men of his corps. He seems to know the uniform of his regiment instinctively, and, as a rule, will follow any officer or man of "ours."

The question of feeding is easily solved. Biscuits will be the sole expense. In barracks, soup and pot liquor can

of little value, but the load is increased progressively until the burden amounts to many pounds.

After a certain time spent in individual practice, these smuggler-dogs are taught to work in packs. The most intelligent of them carry no kit, and find out for the others, who are laden, where the Custom-officers lie in wait. In Lieutenant Jupin's words : "Ce rôle d'éclaireur sera précisément celui du chien militaire dans les marches en avant des patrouilles et des pointes d'infanterie."

The douanier trains his dog in the following manner :— He exercises him to act by day as well as by night; he posts him out of sight, in ambush, where he accustoms him to sit, always attentive, never to give tongue, but to growl slightly, or simply to vary his position should he hear a noise or anything unusual. If the dog barks he



TRAINING A YOUNG WAR DOG.

always be had for the asking, and biscuits and soup mixed make the best food for keeping dogs in condition.

Before discussing the best method of training dogs for war purposes, it will be instructive to consider the course adopted by Custom-officers and smugglers. The smuggler, who wants to run contraband goods, takes his dog by day over the frontier to a shopkeeper, his accomplice, and when night comes, the latter starts him for home, having given him a good beating. Thus ill-treated, the animal makes forthwith for his master, who welcomes him and feeds him liberally. Three or four trips are made under these conditions, until the dog is accustomed to find his way home in the dark. He then begins his life as a carrier. At first he is saddled with light goods

is corrected; on the other hand, if he attracts his master's attention by wagging his tail, cocking his ears, or by a light growl, he is made much of, and the douanier gives him a bit of sugar to make him understand that he has done well.

When the dog is young, he is taught to play with lace, bags containing coffee, and tobacco. These are hidden, and he is made to find and fetch them. He is also practised to track smugglers and their dogs; and after some weeks devoted to training of this kind, a good Customs-dog will smell out a pack of dogs; or even a solitary smuggler at 200 yards, and is fit to accompany his master on duty.

To obtain the above results, the dog must be trained

when young. At six or eight months old the military dog should be taken in hand in order to subject him to discipline by controlling his temper, correcting his faults, and making him on all occasions conform his movements to the voice or gestures of those breaking him.

The Germans, in training their dogs for war, aim above all things to make them distrustful, for which purpose they are taught to recognize and pick out all clothed in French or Russian uniform. In France it is proposed to adopt the same course, and to furnish each company with some German uniforms, which can be made by the regimental tailors, of cheap stuff, and worn at each dog-drill by soldiers to represent the enemy.

In training the dog to act as scout, a squad or so of the imaginary enemy is sent forward to hide under cover, and then the dog is despatched upon his mission. On nearing the party, the men rush out at him to frighten him, and beat him, if possible, so that he growls and warns his party. If the dog barks, his master should immediately check him, and so reprove him that he will understand that by his attitude alone is he to signal danger, as the sporting dog sets game without barking. After some exercises of this kind, the dog will acquire experience, he will become more prudent and ever watchful, while his fine sense of smell will enable him to scent out an enemy or a stranger at a distance.

The training of the dog for sentry duty will be a more easy task, as watching is one of his natural functions. It will be essential to accustom him to remain close to the soldiers, and to sit and remain attentive, especially at night.

To teach a dog to act as *estafette* or courier, the following plan is adopted:—The young animal is taken a certain distance from his owner, and then having had a satchel or parcel attached to his neck, his conductor slips him, indicating by his hand the whereabouts of his master, who calls him at the same time. The despatch is then taken from him, and he is rewarded with a lump of sugar, and patted to encourage him. These exercises should be continued daily, progressively increasing the distance, and changing the ground to be traversed. The initial difficulty consists in making the dog run to the first soldier posted to receive him. In the first lessons given this may be his master, and subsequently he may be replaced by a man well known to the dog; then by others less known, and ultimately by strangers. One and all should reward him with the regulation lump of sugar on reporting himself, and delivering up his despatches.

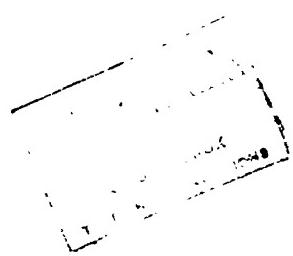
THE BEST BREED OF WAR DOGS.

Among the important questions to determine in the

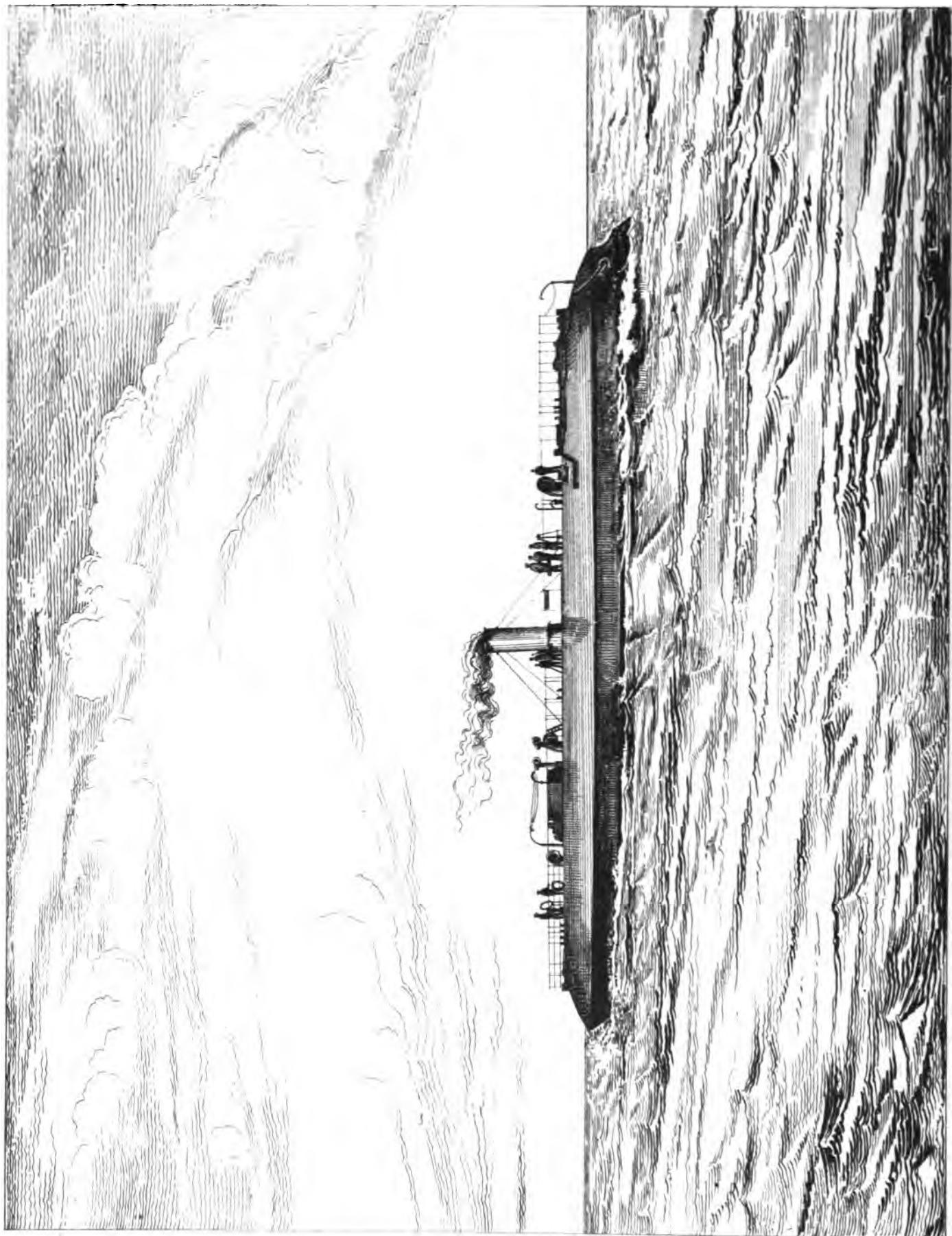
establishment of dogs for war purposes, is that of breed. Some consider the smuggler's dog the *beau ideal* for the purpose. Along the frontier between France and Belgium, it is said that over one hundred thousand dogs are engaged in the contraband trade. Whatever may be the exact number, they play their part with such marvellous skill, that little over one per cent. are ever caught, despite the strenuous efforts made by the French Custom House officers to capture them, or cut them off. Others incline, however, to consider that the French shepherd's dog will be best suited to the purpose, and doubtless much is to be said in favour of that breed. This interesting animal displays, in his daily life, intelligence probably of the highest canine order. He is seldom if ever heard to bark, performing his duties in silence. He ranges round his master's flock when he sees a vehicle coming on the road, and clears a space to pass. Crossing fields, he respects his neighbour's property, and with scrupulous care prevents any sheep from breaking off and browsing on other peoples' pastures. Such an animal, trained for outpost duties, would render signal services, and his attention would not be seduced by a rabbit crossing his path, or by the attractive odour of a covey of partridges. He is too conscientious while on duty, and may often be seen assuming all the responsibilities of guard-mounting while his master sleeps. This breed of dog is purely French. Rough and rugged, nature has endowed it with many excellent qualities, and it can bear the inclemencies of the seasons without contracting those diseases which affect smooth-skinned and short-haired dogs.

Both Germans and French are wholly in earnest in employing dogs in war. The former begin on a limited scale, while the French are more ambitious in their views. Indeed, Lieutenant Jupin, who has a most intimate knowledge of his subject, appears somewhat too enthusiastic, and expects the dog in war to perform things little short of miracles. He even contemplates the possibility of dogs being employed during action, in bringing up fresh ammunition supplies to the fighting line. He is confident that neither the whistling of bullets nor the bursting of shells would scare a well-trained dog from faithfully performing his mission. The only difficulty would be to get into his brain the necessity of having to return to the munition wagon; but even this Lieutenant Jupin thinks might be taught.

The movement is in its infancy, but is sure to receive an important development in the autumn manoeuvres of the French and German armies this year.



NEW TYPE OF SEA-GOING TORPEDO BOAT,
Designed and Constructed by the
"DEFENCE VESSEL CONSTRUCTION COMPANY LTD."
Present specimen of the Boat in her intended condition.



A NEW SEA-GOING TORPEDO GUNBOAT.

BY CAPTAIN H. BERKELEY, R.N.



WITH the advent of the above-named class of vessel, a new departure may be said to be taken in torpedo warfare. As far as we understand it at present, the primary object of the torpedo cruiser (for such she is) will be the discovery and destruction of the ordinary torpedo craft of the enemy. The heavy armament of the vessel will necessarily prevent an ordinary torpedo-boat from trying conclusions with her opponent by means of her torpedo, and the speed of the cruiser will enable her to choose her own distance in which to encounter her foe.

The craft in question, whose name for the present is the *Buona Ventura*, was designed and built by the Defence Vessel Construction Company, to meet what was an acknowledged want in torpedo craft—that is, to keep the sea in bad weather, and to carry coals for a long voyage. This craft has already proved herself a remarkably buoyant and efficient sea-boat, and can carry coals sufficient to last from the Thames to New York at a uniform rate of ten knots an hour—a most material advantage, and one that would be invaluable in war time.

The novelty in the appearance of this craft is due to the fact that she is covered in from stem to stern with a steel superstructure; thereby, in the first place, giving increased power to withstand bad weather; secondly, giving a great measure of safety to the men working the guns and torpedoes from what has now become the main deck; and thirdly, both officers and men have by this arrangement comfortable quarters.

Great interest was taken in her, upon her appearance in the Tyne, where she was sent to be fitted with her engines by Messrs. Scott & Co., of the Close Works,

Tyneside, after having been built at the Company's works at Erith, in the Thames. Her dimensions are as follow:—Length over all 182 ft., extreme beam 20 ft., depth from base line to underside of main deck 11 ft. 1 in., from main deck to underside of superstructure 6 ft. 3 in. She is twin screwed with engines of a collective indicated horse-power of 2,700, triple expansion, with 160 lbs. square inch of steam pressure. Her draught, with guns and stores on board, will not exceed 7 ft. 6 in. The official trial is expected to take place in the first week of March. Her boilers are of the locomotive marine type, and are the largest of their kind yet afloat. The armament, considering the size of the craft, may fairly be assumed to be heavy. It will consist of quick-firing 3-pr. guns and machine guns, or even heavier quick-firing guns, should it be desired, her scantling having been increased with this object. She is fitted with a ram, and built throughout of Siemens best steel; thus the increased scantling has not added materially to her weight. She will be provided with a shot-proof conning-tower on deck, from which her steam steering gear will be worked. The machine guns which she carries are transportable on a novel plan.

She is divided into a large number of water-tight compartments below, has complete pumping arrangements, a most powerful search-light, and is illuminated by electricity throughout. She has ample store-rooms and magazines; and her torpedo rooms, four in number, are large and most convenient as compared to the space that is usually allotted to these "devil's implements." Up to the present time, she may fairly be said to be the most powerful, dangerous, and fastest craft of her line afloat. Her displacement is about 350 tons, with some 600 tons capacity.

H. BERKELEY.

THREE YEARS IN RIO HARBOUR.

By ADMIRAL H. F. WINNINGTON-INGRAM.



N the 9th of February 1866, I embarked with my wife and four children—all girls—of ages ranging from one to eight years, on board the Royal Mail steamer *Douro*, at Southampton, for passage to Rio de Janeiro, the capital of Brazil.

I was, on arriving there, to assume the command of the *Egmont*, an old 74-gun ship, fitted up as a store and provision vessel. She also contained prison cells, a hospital, and a powder magazine. All these were to meet the requirements of any of Her Majesty's ships that might belong to the South-East Coast of America station, or should touch at Rio on their way to China or the Pacific.

I was to consider myself the senior British naval officer in the above port, unless when, temporarily, an officer of higher rank entered it.

I was given the power of a "Director of Prisons," and was also authorized to conclude contracts on the part of the Government with local merchants for supplying our ships with certain provisions, coal, &c., and I had to conduct all courts-martial as their president, as well as to sit upon examinations of officers in seamanship, and to inspect all vessels commanded by junior officers, and to see that they refitted and were ready for sea again without delay.

My further duties involved calling on all foreign admirals and captains who brought their ships into Rio Harbour, and receiving the return visits, and although I had been refused table money by the then Admiralty for the entertainment of these officers, I should have exposed myself to the charge of meanness in not asking them to dinner. Here was shown one of the incongruities in the rules which guide our service in these matters; for instance, the flag-captain to the admiral on the station, who always sat at his chief's board, and had therefore no table expenses to keep up, was paid a larger allowance for the above purpose than the captain of the *Egmont*, who, in the absence of the flagship for two-thirds of the year from Rio, had to do all the naval entertaining at that port.

The old adage. "Tis an ill wind that blows nobody any good," assumed, fortunately, its justification in my case; for had not the war existing between Brazil and Paraguay, during the greater part of my service at Rio,

sent up the value of English gold to an unprecedented amount in milreis—the paper currency of the Empire—I should, at the end of the commission, have found myself a much poorer man than when I entered upon that term of three years' command.

If I recollect rightly, at the time in question, nine milreis to the sovereign was considered to be par; but the exigencies of a war conducted in a foreign country had raised the latter's value to twelve milreis and upwards; and as the expense of living at Rio had not increased proportionately, we, who received our pay in British money, were considerable gainers by its exchange.

The year 1866 had opened with violent atmospheric disturbances over the whole of the North Atlantic, and in the early part of January a fearful catastrophe had happened to one of our first-class mercantile steamships in the Bay of Biscay, during a hurricane or cyclone, to which she was exposed.

The *London* was the name of the vessel, and she had, a few days previously, left the Thames deeply laden with a general cargo, amongst which was railway iron, a load that has proved destructive on more than one occasion to vessels shipping it.

The *London* had also taken on board passengers for the East to the number of thirty or forty people of both sexes. When the hurricane was at its height, it was found that the dead weight of the cargo prevented the steamer rising to the fierce seas which assailed her. These came on board by tons, and, finding their way to the engine-room, speedily extinguished the fires. The ship's head could now no longer be kept to meet the waves, so she fell off into their trough and there wallowed from side to side. The rushing water broke everything on her decks, forced the hatchways, and then descended to the hold, which was soon full of it, and the vessel began to sink.

Most of the boats had been destroyed by the force of sea and wind, and, I believe, only one of them succeeded in saving its occupants.

A survivor of this shipwreck was now on board the *Douro*, endeavouring to reach the port he had set out for in the *London*, which steamer had foundered with those remaining on board, shortly after his quitting her side. It was his cruel fate to experience a similar cyclone in the vessel into which he had now re-shipped.

The *Douro* quitted Southampton on the afternoon of

February 9th, but her Captain (Bevis) not liking the look of the weather, and warned by a falling barometer, anchored for the night off Yarmouth in the Isle of Wight. Early next morning she was again under weigh, and made good progress down Channel, steaming against a S.W. gale.

At 12 A.M. of the 11th I was awakened by the wind increasing, and, the ship's motion becoming very uneasy, I turned out of my bunk to visit the cabin where the children with their nurse were located, and found them all rolled out of their sleeping places, and lying huddled together on the deck, whence they gave vent to their feelings of discomfort in loud wailings. Pacifying them as well as I was able, I returned to my own bunk, and, for a time, listened to the roaring tempest overhead, which bespoke an exceptional state of things. I therefore put on the warmest clothing I could find handy, and groped my way on to the upper deck.

Once there, I immediately recognized, in our present situation, all the characteristics of the cyclone I had experienced in the *Boscawen* twelve years previously. The only persons I found on deck were the captain, officer of the watch, two helmsmen, and the survivor of the *London*, who, on the principle that a "burnt child dreads the fire," was taking anxious note of the surroundings, and carefully inspecting the boats that hung to the davits.

The chief engineer would every now and then come up from his engine-room, and, steadying himself as well as he could against the fearful pressure of wind he encountered, report to the captain the number of revolutions his engines were making, for on them the latter well knew our entire safety depended.

The *Douro*'s grand saloon, some 80 feet in length, received light from above through glass skylights fixed in the upper deck, and these, having no protecting shutters, were liable to be smashed by the first heavy sea that came on board that part of the vessel, and then a catastrophe similar to that which overtook the *London* might be expected. It was, therefore, of the utmost importance that the ship's head should first meet the fury of the storm.

The *Douro* was a screw steamer of the latest construction, and of about 2,500 tons burden; she had, nominally, 500 horse-power engines; her boilers were in good condition, and enabled an amount of steam to be generated in them that worked the engines, on this trying morning, up to 1,800 horse-power.

Some idea may be formed of the enormous resistance the *Douro* met with from sea and wind, when the above propelling force proved only capable of just giving her steerage way through the water, and, at times, it even failed to do this, and then her head fell away from the sea and wind. So surely as it did so, the former came over her decks in volumes, and, on one occasion, washed

a large boat away from its davits, and stove in the plate-iron protection to the cargo-ports on the main-deck. The following sea made a clean breach through the aperture into the ship, and so alarmed the lady passengers, that many cried out in their fright, whilst others knelt down in the saloon and offered up prayers to the Almighty to spare them the fate that befel most of their sex on board the *London*.

As daylight broke upon our little group on the upper deck, who were clinging for dear life to some support or another as a prevention from being blown overboard, the sight that met our gaze was almost indescribable. "Gaze," however, is a wrong word to apply to the surreptitious peepings between nearly closed eyelids, that were forced upon us by the cutting blast and flying drift that scoured our faces.

Looking out ahead, the huge waves could be but dimly seen as they hurriedly advanced on our stricken ship. They appeared shrouded in a white veil of driven foam that had been caught up from their crests, and was being hurled along at lightning speed, between spars and cordage, by the hurricane, which literally shrieked as it passed through these impediments. This spray pelted us most unmercifully, and soon the clothes on our persons began, through constant fretting from the above causes, to tear themselves away. The fore-part of the vessel as far aft as the fore-mast was rarely visible, for the waves succeeded each other with such rapidity that they gave little time for the bows to emerge from one of their embraces before they were subjected to a repetition of the same rude deluge.

Our position on the deck of the *Douro* differed considerably from what I had experienced, under similar circumstances, in the *Boscawen*. In the case of the steamer, the fact of being able to keep the ship's head to the wind gave us no shelter from the terrific storm, whereas, in the instance of the sailing line-of-battle ship, she received its full force on her starboard beam, and thus the weather bulwarks became a screen for those who remained on her upper deck.

Having satisfied myself that every confidence might be placed in our captain and chief engineer, I descended to the saloon, and there witnessed a curious scene, demonstrating, as it did, the difference in temperament of three distinct nationalities in the presence of danger.

Many Portuguese were passengers in the *Douro*, bound either for Lisbon or the Brazils. The female portion of these had now assembled in the saloon, and were loudly praying to their various saints for protection. Some of the English of the same sex had taken possession of the quiet nooks of the great cabin, and were weeping in silence over their little ones. One stoical lady of my acquaintance, in spite of the depressing surroundings, was assiduously attentive to the breakfast-table, and seemingly urging her family to

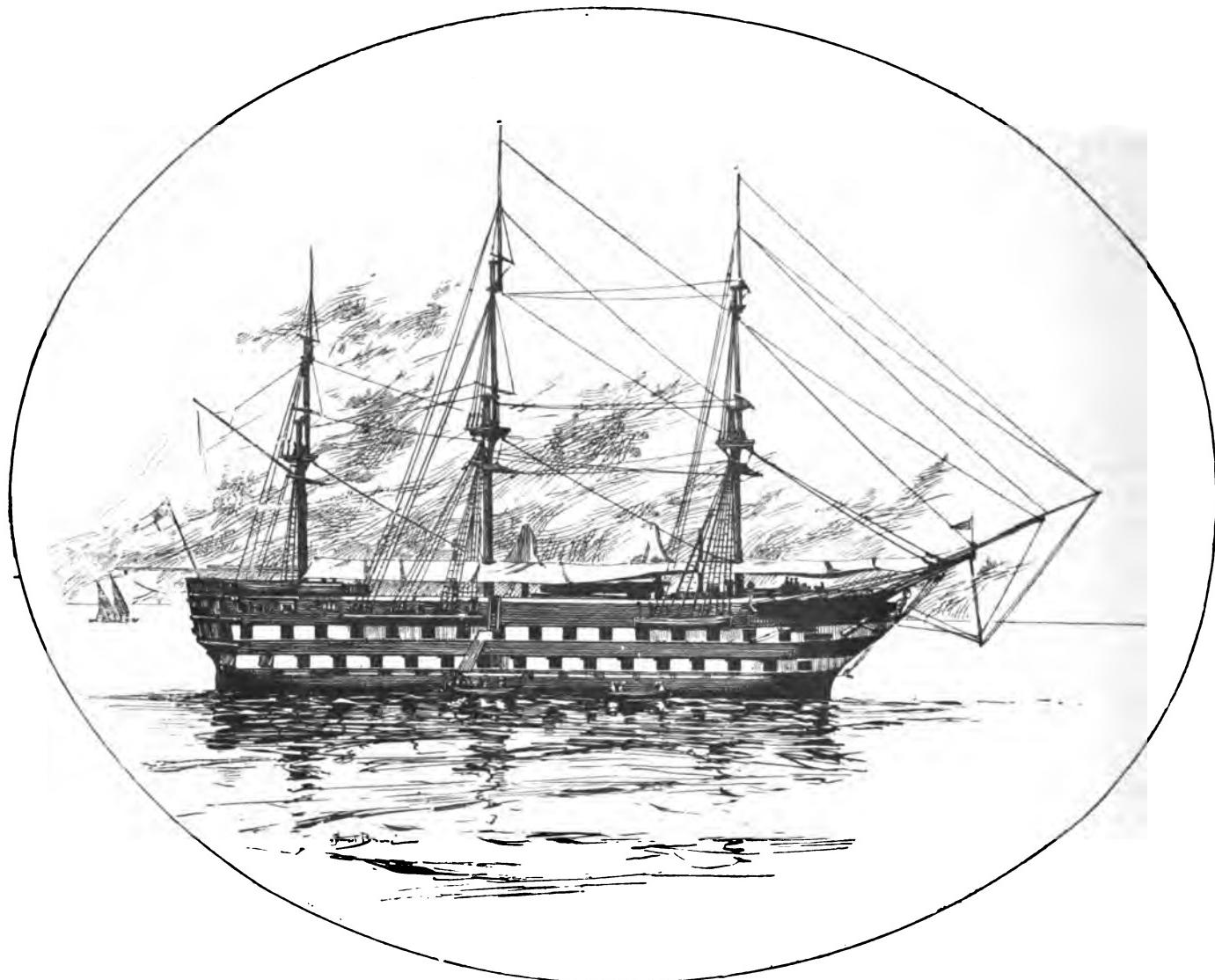
consume the viands, which were, perchance, prepared, but had small chance of being partaken of on such a morning. The lady was German, and was married to an English gentleman on his way to take charge of a bank in Rio de Janeiro.

This cyclone, like the one I was in 90 miles north of Bermuda in 1854, lasted barely ten hours, for by 12 p.m. it had moderated sufficiently for the *Douro* to shape her course for Lisbon.

vessel carried others down to the depths when she sank a few minutes after the Spaniard had struck her.

On arriving at Lisbon we learned, by telegrams, that the storm had done great damage both on the shores of France and England, besides making havoc in the wooded districts of those countries. Vessels had been driven from their anchors, telegraph-posts blown down, and trees uprooted by its terrific violence.

The remainder of the voyage to Rio was passed in all



H.M.S. "EGMONT" IN RIO JANEIRO HARBOUR.

The morning sights placed the ship only 20 miles west of Ushant, and as the wind was blowing directly upon that coast, had her engines failed, she must, if not previously overwhelmed by the sea, have been wrecked on the rocks that lie off the above cape. She was, however, reserved for another, and not less disastrous, fate. In the years 1881-82 the *Douro* was run down in the Bay of Biscay by a Spanish steamer, and, though most of her crew and passengers were saved in boats, the

delights of trade winds and sunshine. The beauteous scenery of Rio Harbour has been so frequently described in books of travel, that it would seem superfluous for me to dwell upon it. Yet, as memories of places are sometimes lost in the lapse of time, I will, at the risk of being counted tedious, note some of the principal features of the land which so pleases the eye of the stranger when he casts his first look upon it.

Supposing, then, his vessel to be approaching the

entrance of the harbour, he will have on his left hand, a grouping of hills and mountains of various heights, and of such fantastic forms that they fairly astonish him. The "Sugarloaf," as being the nearest of these objects, will probably be the first to attract his attention, and he will see a granite mass of 1,000 feet in height, and of the exact shape denoted by the name it bears, rising almost perpendicularly from the channel which constitutes the portal of this noble harbour. It seems, as it were, nature's sentinel, standing guard at the entrance to the waters of enchantment. It has not, however, been adapted by man for offensive or defensive purposes; indeed, its summit has only been reached by a few daring spirits, either English or American.

Behind, and somewhat inland, as regards the position of the Sugarloaf, but distant not more than two or three miles from it, a clearly-defined peak stands out against the azure sky. It appertains to a mountain, whose northern side slopes gradually away in the direction of the city, and is mantled with an evergreen forest, while its eastern aspect faces the harbour with a bare precipitous front of granite, no less than 2,000 feet in height; this is the Cocovada.

Again, a little distance to the westward of the above, there towers up from amidst a chaos of strange-shaped hills, the beautiful peak of Tijnca. The elegant outlines of this fine mountain are frequently hid by a drapery of fleecy clouds, for at an altitude of 3,000 feet,--which its highest point attains--the ordinary tropical cumuli are arrested in their course through the earth's atmosphere by this attraction, and to which, when once in contact, they seem to cling with a fond tenacity.

Near the Tijnca and to the S.W. of it, but of rather less elevation, lies the curious flat topped mountain known to the Brazilians as the "Gavier"; its formation is in striking contrast to the sharp-pinnacled peaks which surround it.

More to the south, but belonging to the same strange group of upheavals just noted, rises a mountain developing such prominent facialities that it was named by the British tar of last century, "Lord Hood's Nose," his lordship being gifted, as may be seen by his portrait, with more than the usual proportion of nasal organ.

The land which, up to this point, had been trending to the S.W., now takes an abrupt turn to the N.W., and when again viewed, displays itself rapt in the blue tint of distance. We will now notice the features of the shore which lies on the right or starboard side of the vessel about to enter Rio Harbour. She will have left Cape Frio--the usual landfall for ships coming from the North--far astern, and will be in the neighbourhood of the Islands of Mai and Pai. These are of round conical form, covered with brushwood, and lie adjacent to the coast, which is here--in the first instance--low and intersected with lagoons. It then becomes elevated and

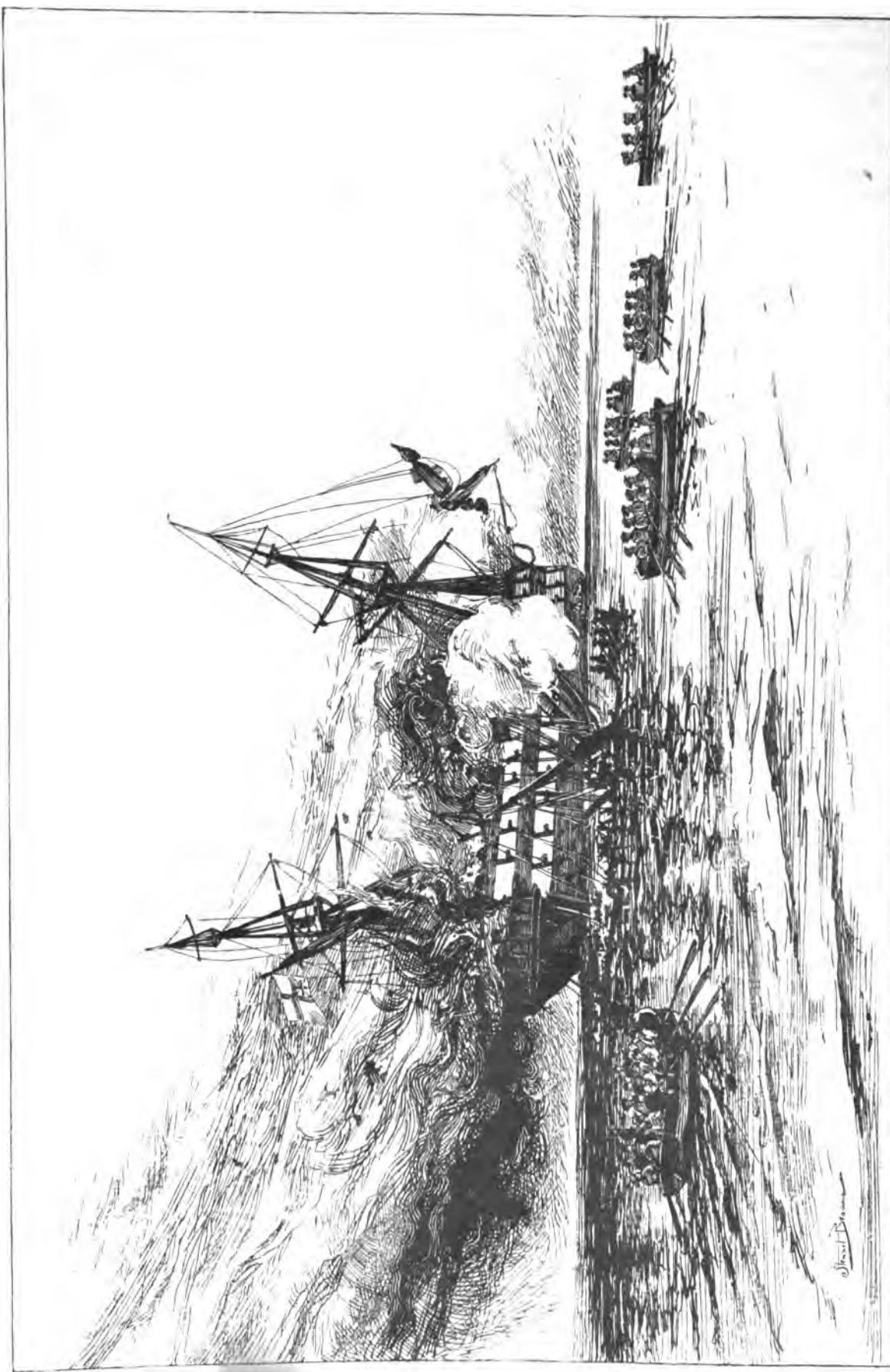
dispersed into detached hills thickly clad with tropical vegetation, in which the stately palm is pre-eminent. Landslips have occurred in places, and these disclose a red sandstone formation. Pretty country houses peep out here and there from amidst the foliage, and they increase in number as the harbour's mouth is approached. Soon Fort Santa Cruz comes in sight, with the Brazilian flag hoisted over its three tiers of guns. These, in 1866, were of small calibre--chiefly 32- and 24-pounders--but I have no doubt heavier metal has since been added to the armament.

This battery faces the Sugarloaf hill on the opposite side of the entrance, and completely commands the latter, which is not more than half a mile in width; the passage is further restricted by a small island that lies in mid channel. Thus, in time of war, an enemy endeavouring to force his way into the harbour would have to run the gauntlet of a murderous fire; but a modern ironclad would, no doubt, do so with impunity, and in return quickly dismantle this ancient fortification with her heavy guns.

A story is still extant of a 50-gun frigate of the olden days--and at the time commanded by a noble lord--having poured a shotted broadside into these works in return for a projectile fired over her by the Brazilians whilst the captain was taking his vessel to sea during the hours of night, a proceeding of which the former did not approve. The results were, the destruction of a watch-tower, erected on one of the angles of the fort, a diplomatic correspondence on the subject, which came to nought, and greater prudence for the future on the part of the artillery quartered at Santa Cruz.

The Douro had now got past these batteries, and one of the finest harbours in the world lay before us. On the right and left hand, respectively, could be seen the beautiful bays of Jura Juba and Botafogo, with clean white beaches and suburban residences fringing their shores, whilst scattered houses peered out from among a luxuriance of vegetation which covered the hilly background. In the latter bay the scenery assumes a grandeur by its being contiguous to, and in fact dominated by, those marvellous freaks of nature the "Sugarloaf" and Cocovada. However, as soon as the eye of the stranger is withdrawn from one attraction, it lights upon another in this realm of magnificence, until it at last rests on the noble Organ range of mountains with their serrated ridges rising 7,000 feet above sea-level. These seem to form the harbour's northern boundary, but they are, in fact, some ten miles from it, and between twenty and thirty from the Sugarloaf hill. The full length of the harbour may be taken at about fourteen miles, and its circumference at sixty, by measuring into the many indentations that are found along its shores.

The waters thus enclosed are studded with numerous islands, the principal of these are Governator and



H.M.S. "BOMBAY" ON FIRE AT MONTE VIDEO, 14TH DECEMBER 1864.

Paqueta. The former is about five miles long, and the latter takes not more than that distance to sail round it. Both islands lie towards the head of the harbour : Paqueta being twelve miles from Fort Santa Cruz.

The last named island is a favourite resort of citizens from the capital, being a charming little spot, and accessible daily by a small steamer plying between the two places.

The climate of the island is also considered healthy, as the beneficial influence of the sea-breezes is felt during the day and the land-winds from the Organ mountains in the hours of the night. Its scenery is also pretty, composed, as it is, of curious granite boulders, white sandy beaches, and every variety of tropical vegetation. One side of the island is almost entirely devoted to the growth of the cocoanut palm, and this has frequently its roots extending below high-water mark without any apparent hurt to the tree itself. Numerous villas with nice gardens filled with bananas, plantains, and the pitanga fruit bushes are spread about, while large mango trees grow everywhere.

The granite boulders here mentioned are most remarkable, and can be seen cropping up in the shape of small islets all over this part of the harbour. Some are split in twain, and others completely shattered by the expansion of the iron they contain, when acted upon by unusual heat.

The late professor Agassiz attributed their presence to glacial movements at a very remote period in the world's history, and, indeed, their appearance would lead one to suppose this theory correct, for they look quite as strangers among other surroundings, and seem to have been dropped into their present places by the above agency.

Large-sized plants, in some instances, have grown out of the rents made in these rocks, and the small Brazilian oysters hang in clusters round their water bases. The view from Paqueta, looking towards the Organ range, is most picturesque—the intermediate sea, for about two miles, being studded with these boulders, and then a very gradual rising shore commences, and continues to the foot of the mountain some ten miles distant.

A railroad has been laid along this slope, which conveys travellers to the famous União Industria road, and by this they climb the hills in muled coaches. The gradients of the structure are made so easy by frequent zigzags that the drivers of these vehicles are enabled to keep their animals at a swinging trot or gallop, and thus convey their passengers at a rapid rate to their destinations either at Petropolis, or Juiz de Fora, or places intermediate between these towns.

Another short railway is laid from the right extremity of the harbour to Cashoeiros, a village that lies immediately in the shadow of the mountains, up whose

steep declivities a road with many windings leads to Nova Friburgo. This town is situated, amidst wild rugged scenery, some 5,000 feet above sea-level, and is a great health resort for those suffering from the effects of fevers or the enervating influence of the damp heat of the lowlands. The peaks on the summit of the Organ range here assume the form of jagged pinnacles, and are most fantastic in their shapes. They may, in some cases, be likened to monster human thumbs and fingers jutting out from a mitted palm, the latter being represented by the well-clad hills that serve as their base.

But we are straggling much too far from the *Douro*, which packet was last described as being on the harbour side of Fort Santa Cruz. She is now steering in the direction of the fortified island of Villegagnon, about two miles distant. On its left hand, and separated by a mile of water, may be seen the beautiful city of Rio de Janeiro, formerly St. Sebastian, with its many suburban ramifications stretching themselves up shady ravines, or anon climbing the verdant hill-tops. These offshoots are in connection with the town proper, and together occupy an area of vast extent.

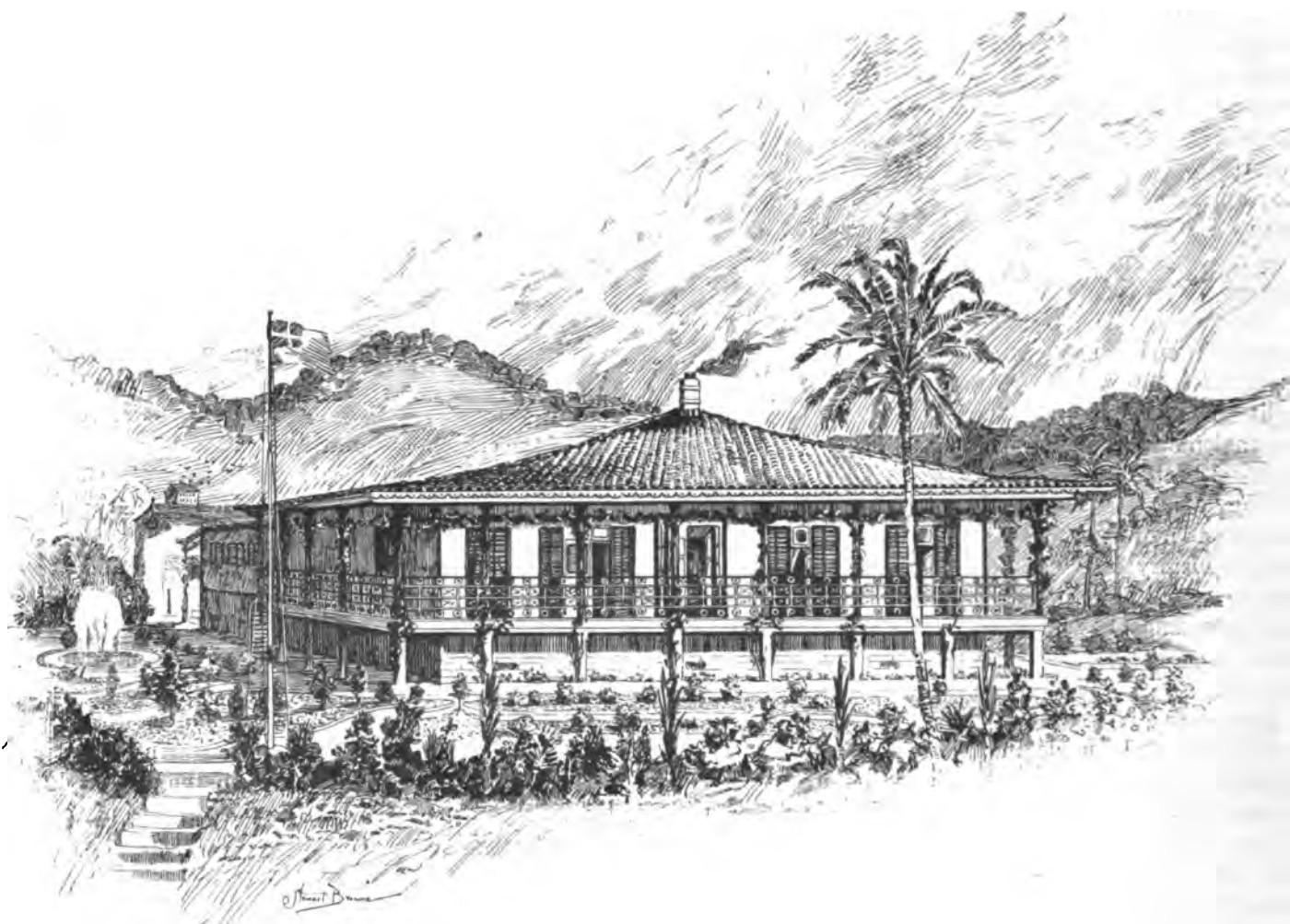
Rio being one of the best gas-lighted capitals in the world, I know not any such fairy scene presented elsewhere as the view from the harbour, on a clear still night, of the city and its environs. The shore seems in a perfect blaze from the thickly-placed lamps, while the dark background of hill and mountain appears hung with sparkling jewelry, as the lights—following the course of the curved streets and roads—ascend the heights and shape themselves into monster necklaces and coronals.

On exactly the opposite side of the harbour to that whereon the city is built, and with about three miles of water between them, stands the old Portuguese town of Nictheroy, and once upon a time the Colonial capital. The place is better known, in the present day, as the "Praya Grande," and has a long strip of beach for its frontage. This, on one side, is bounded by the bay of Jura Juba, and on the other by the high land that looks down upon the Ponte d'Area. The town is composed principally of detached houses with gardens, and these are chiefly occupied by business men from the city, who are conveyed mornings and evenings to and from their offices by floating steam bridges. Behind these residences, a pretty undulating country may be traversed, if the rambler cares to delve into the many umbrageous paths that intersect it. These frequently follow the course of a rivulet, and are the home of the "Barbaleta," or butterfly. This pretty insect can be seen, in its many varieties, gliding over the streams, and exciting the cupidity of the pedestrian by their marvellous size and brilliant colours.

The *Douro* now passed through the man-of-war anchorage ; its limits are bounded by the islands of

Villegagnon and Cobras. The latter, for many years, contained a small English naval establishment, where our ships could be supplied with all manner of stores. These had, in 1863, been transferred to the *Egmont*. As we neared my future command, moored in the midst of war-ships of all nations, it could be at once seen that she belonged to an obsolete class of vessel, and, in fact, she was one of those 74-gun ships, on two decks, that, towards the close of our last war with France, had been built by contract; and in consequence

all the forenoon, and were resting during the dinner hour, with the intention of renewing the practice in the afternoon, when smoke was observed issuing from the hatchway leading to the after hold. The fire-bell was immediately rung, and the men flew to their stations. Hose upon hose was passed into the hold, and floods of water pumped down, but all to no purpose. Volumes of dense black smoke came from the depths of the ship as the only result of these exertions, and it soon obtained the mastery over them, through the



PALMERIAS, RODEIO, BRAZIL.

of the gross manner in which our Admiralty were defrauded in their construction, they became for ever afterwards known to the service by the *sobriquet* of the "Forty Thieves."

Not far from the *Egmont* lay the British frigate *Narcissus*, flying the flag of Vice-Admiral the Hon. Charles Elliot; she had just come out from England to take the place of the 90-gun ship *Bombay*, that had recently been destroyed by fire off Monte Video. This vessel had weighed one morning for the purpose of target practice with her big guns. The crew had fired

suffocating effects produced on those battling between decks with this frightful enemy. Fire quickly shot up from below the smoke, and, in a few minutes from the time the alarm had been given, this splendid line of battle-ship was irrecoverably a prey to the terrible element. The flames, mounting to the upper-deck, seized upon the mainmast, and ran up it with lightning speed, destroying all the sails and cordage that came in its way. Bare time was given officers and crew to hoist out and lower boats, and cram them with a living freight, before the *Bombay* was enveloped

from truck to keelson and stem to stern in one fiery blaze.

The guns, which had remained loaded with shot and shell during the dinner pause in the practice, now began to discharge themselves, causing another danger to those embarked in the boats. The latter were, therefore, placed out of the line of their fire, and there awaited the closing catastrophe, which was not long in coming. At first, a dull rumble, which caused the waters to vibrate under the boats, proclaimed the powder magazine ignited; then, with a roar that might have been heard for many miles, the whole interior of the vessel mounted into the air. This was followed, at once, by the submergence of the *Bombay*, and thus a fine 90-gun liner, splendidly commanded and manned, was, in spite of the brave attempts made to save her, consigned by the attack of one devouring element to the everlasting keeping of another.

The *Douro*, continuing her course up the harbour, passed in succession the *Numancia*, a large Spanish ironclad, flying the flag of Admiral Mendez Nunez, who was soon to make himself famous by his daring attack on the strong forts of Callao, the port of Lima; the French frigate, *Magicienne*, carrying an admiral bearing the unique and long-winded surname of "Coupventdebois," and whose flag-captain, now Admiral Serre, became one of our greatest friends during the three years he was off and on in Rio harbour; then the American flagship, a monster corvette, mounting heavy "Dalgren" guns, in shape like soda-water bottles, and with whose admiral (Godon) we were soon to be most intimate; and lastly, the ship of the Brazilian admiral (Tamandere), who distinguished himself in the war then in progress with Paraguay.

Many other vessels of all nations, commanded by captains, commanders, and lieutenants, were anchored in the intervals between and in-shore of the flag-ships. The *Jean Bart*, a French liner and cadet instruction ship of ninety guns, was one of these, as also the *Swetlander*, Russian school frigate, commanded by a Captain D—, who became well known to the "Egmonts" in his annual visits to Brazil, and in connection with whom I remember a somewhat amusing incident.

In one of the sweltering months at Rio, co-eval with those of frost and snow in England, the Russian frigate arrived on her yearly round, and Captain D— having paid the customary visits to all foreign admirals, captains, ministers, consuls, &c., announced his intention to them of celebrating the Czar's birthday on board the *Swetlander* on a certain date, and asked all these officials to be present at a noon *déjeuner* in honour of his sovereign.

The commemoration day proved to be one of the

VOL. VIII.

hottest in the season, and the hour of invitation to the feast was the most fervent that could have been chosen; nevertheless, full-dress coats had to be buttoned up to the throat, epaulettes worn on the shoulders, and the heavy cocked hat mounted on the sufferers' heads. These combined soon produced a state of perspiration unpleasant in the extreme. At the breakfast-table, Captain D— proposed toast after toast in rapid succession, and insisted upon full honours being paid to each, in bumpers of champagne, and set the example of draining his glass, and then holding it in his hand, inverted, a performance all the guests were expected to copy. In this way the health of every crowned head had been drunk, and responded to by representatives of the kingdom over which he or she ruled. Then the Ministers of every nation, accredited to the court of Brazil, were treated in like manner, and afterwards the senior naval officers of the foreign ships present had to undergo a similar ordeal. This toasting had lasted for two or three hours, and its effects were to create a degree of moisture that left not a dry shred on one's person. This opening of the pores of the skin was doubtless a safeguard against any injurious tendencies arising from such rapid imbibing.

However, all things must have an ending, and, happily, the above proceedings were brought abruptly to a close by the President somewhat suddenly vacating his chair, nor was anything more heard of him during that day. The company were seen into their boats by the next officer in command, with all due formalities, and the affair was considered over.

This was not, however, Captain D—'s view of the matter, when the following morning dawned on his restored intelligence, and he became self-accused of a want of courtesy to his guests of the day previous by not being on the deck of his frigate when they took their departure.

To a man of such high breeding and keen susceptibilities—qualities our host largely possessed—the thought that he should have been brought by an excess of loyalty in the performance of one duty to neglect another, not less important, was most galling. He, therefore, without delay, donned his uniform and proceeded in his galley, first on board the vessels whose admirals and captains had been present at his table, and afterwards pulled ashore to the houses of the ministers and consuls. To all he offered humble apologies, and excused himself by saying that had he brought his champagne from Russia, as usual, no mishap would have occurred, but they had been obliged to buy the wine at Rio stores, which could not be trusted to sell the genuine article. He also hinted that his guests must have shirked their share of the deleterious beverage, otherwise it would have affected them

▲ ▲

similarly. In the latter surmise I believe him to have been correct, if the wet state of the cabin deck under the festive board told a true tale.

However, the many serio-comic condolences Captain D—— received from his friends the invited, showed him with how little gravity they regarded his delinquency.

The *Douro* had now arrived at the coal dépôt placed on an island a little beyond that of Cobras, and we prepared to quit the packet and take up our quarters on board the *Egmont*, which ship was to be our floating home for the next three years, and a comfortable and cool habitation we found her to be.

My principal apartments were under the poop deck, and consisted of a large after-cabin, with a stern walk

and quarter galleries attached to it. In the former were placed easy chairs, wherein we and our guests would recline and enjoy the cool calm evenings and marvellous scenery by which we were surrounded. One of the galleries was fitted up as a salt-water bath, and in this —during the hot hours of the day—the children revelled. The spacious fore cabin was divided into two rooms by a bulk-head running fore and aft. On one side of this were our sleeping apartments, containing a good double four-poster bed, and on the other the dining-cabin; each had two large ports in them, intended originally for guns, but they were now used as windows for imparting light and air, and in this they were aided by a skylight cut through the deck overhead.

(To be continued.)



OUR INDIAN MILITARY STATIONS.

BY JAMES C. DICKINSON, RETIRED STAFF-SURGEON.

LUCKNOW (*concluded*).

THE SIEGE.



First the women of the garrison, though within the past few weeks they had begun to learn something of the horrors of war, were thrown into an extremity of terror by the appalling din of the hostile cannonade, and expected every moment to see the mutineers come rushing over the feeble defences, and bursting into the rooms to murder them and their hapless children. Yet the Englishwomen in the Residency, who watched the return of the beaten troops from the window, talked calmly of their danger. Take as an illustration the following from Lady Inglis's journal. It should be premised that the writer at the time was suffering from the infliction of small-pox. "You may imagine our feelings of anxiety and consternation. I posted myself, and watched the poor men coming in—a melancholy spectacle, indeed—in order, one after the other; some riding; some wounded, supported by their comrades; some on guns; some fell down and died from exhaustion not half a mile from our position. The enemy followed them to the bridge, close to the Residency, which was defended by a company of the 32nd under Mr. Edmondstone, a gallant young officer. I could see the smoke of the musketry, and plainly discerned the enemy on the opposite bank of the river."

The loss of the battle of Chinhut was a tremendous disaster. A hundred and nineteen English soldiers had been struck down by the fire of the enemy or the fierce heat of the morning sun. All further possibility of offensive movements was now gone; and even bare defence was difficult against such odds. The insurgents came streaming on to the banks of the Goomtee, and as our people entered the Residency, fast and fierce came the round shot from the rebel guns. Before noon the rebels had invested our position. The audacity of the enemy was superb. The passage of the river accomplished, the mutineers speedily occupied the houses in the most commanding positions near the Residency and the Mutchee Bhawun, and, loop-holing them in the most effective manner, poured in a tremendous shower of musketry that never ceased day or night. Contemporary writers describe the aspect of Lucknow as that of a great "city of the silent," the silence broken only by the boom of the cannon and the rattle of the musketry. That the loss of the battle of Chinhut would precipitate the crisis was certain. But, as Mal-

lesson writes, "the crisis would have equally come had there been no battle." The advantages derived from the loss of the battle were that it removed from Sir Henry's mind any doubt he might have had as to his ability to hold two positions; had he done so, as Brigadier Inglis states in his despatch, both posts must have fallen, and he ascribes the concentration of the troops on the better position of the two to Chinhut. In this conjuncture Sir Henry Lawrence sent off an express to Mr. Tucker at Benares, enclosing a note to Brigadier Havelock, acquainting him with the situation at Lucknow, and urging him to press on to its relief. "This morning," he wrote, "we went out eight miles to meet the enemy, and we were defeated and lost five guns, through the misconduct chiefly of our native artillerymen, many of whom have deserted. The enemy have followed us up, and we have now been besieged for four hours, and shall probably to-night be surrounded. The enemy are very bold, and our Europeans are very low. I look upon our position as ten times as bad as it was yesterday. Indeed, it is now critical. We shall be obliged to concentrate if we are able. We shall have to abandon much supplies, and to blow up much powder. Unless we are relieved quickly, say in fifteen or twenty days, we shall hardly be able to maintain our position." Thus were epitomized the day's disaster and its probable results.

It is useless now to attach blame to anyone in particular for the misfortune at Chinhut. "I do not think," says Colonel Edgell, at this time Sir Henry's Military Secretary, "Mr. Gubbins urged Sir Henry to go out specially to Chinhut. He was for aggressive measures generally, and what Sir Henry termed, 'wild expeditions' with detachments of the 32nd. I do not think Chinhut was mentioned until it was known the enemy were there, the day before we went out. I also think that the strength of the enemy was not accurately known to Mr. Gubbins or to anyone else, until we had found it out—to our cost. An expedition like Chinhut was hazardous at the time, because we could not venture to leave half the artillery—the native portion—behind at the Residency, all our European artillery—one company—going with us. As we went out, Sir Henry and many others doubted how the native artillery would behave; but Sir Henry said, 'We must try and blood them,' meaning, commit them on our side. The result was a failure. We should have done better with our

four guns, manned by Europeans alone. . . . Had the native artillery remained true, the enemy's flank movement would have been met, and, no doubt, defeated; but the howitzer and European guns were so pressed, in consequence of the defection of our native gunners, that they were obliged to retire. The howitzer was lost, because the team of bullocks for the limber was 'nowhere,' and the elephant with the limber could not be kept steady in several attempts to limber up, and at last fairly bolted."

Sir Henry Lawrence has been blamed for this misfortune; and as he commanded, the responsibility must rest on him. But none but those who were in his immediate confidence are aware of all the difficulties of his position. The whole city of Lucknow was wavering—it was well-known that the Cawnpore garrison had been destroyed—all the out-stations in Oudh were gone; the servants were deserting. Sir Henry felt that he must endeavour to take the initiative, and yet he was afraid to weaken the garrison too much, or to venture too far away, lest he should endanger one or both of the positions we were holding.*

On the behaviour of Sir Henry Lawrence on that unfortunate day, but one opinion has been recorded. That opinion is ably summarised in the record of a gallant soldier—Colonel Wilson—the Assistant Adjutant-General throughout the siege: "Throughout that terrible day, during the conflict, and when all was lost, and retreat became all but a rout, and men were falling fast, he displayed the utmost calmness and decision; and as, with his hat off, he sat on his horse on the Kokrail Bridge, rallying our men for a last stand, himself a distinct mark for the enemy's skirmishers, he seemed to bear a charmed life." The writers of his life say: "Sir Henry's bravery was implanted by nature, strengthened by habit and discipline, but further fortified, so to speak, by that deeply religious cast of habitual thought which, where it prevails, acts on the temperament with the same kind of corroborating influence as the fatalism of the Mussulman, equally intense, and far more enduring." Valour so nursed is, in truth, "a sword of Spain, the ice-brooks temper."

During the night after the action, the insurgents loop-holed most of the houses in the immediate vicinity, and early next morning they began a very heavy fire of musketry, and the balls fell in shoals everywhere. At one time in the forenoon they made a show of advancing to attack, but were driven back by force. And now the siege of the cantonments, which included the "Residency" and the "Mutchee Bhawun," between which Sir Henry's small force was inevitably divided, began in earnest.

The abandonment of the Mutchee-Bhawun had become a matter of necessity so as to concentrate the whole force within the walls of the Residency. How was this

to be effected? The ground between the Residency and the Mutchee-Bhawun was commanded by the enemy. To have sent a messenger with a letter would probably have been to have revealed, and, therefore, to have frustrated, our designs. Fortunately we were not without an alternative. The foresight of Lawrence's engineers had caused the rude machinery of a telegraph to be erected on the roof of the Residency, and the nature of the signals had been agreed upon and was well understood between the inmates of the two buildings. It simply consisted of one post with a bar at the top, from which were suspended in one row black stuffed bags, each having its own pulley to work it. But it was a service of difficulty and danger so to work this improvised semaphore as to convey to the garrison of the Mutchee-Bhawun instructions to blow up the building, and to withdraw the garrison under cover of the night. Three officers went up to the roof of the Residency, and after remaining there some two or three hours, "under a broiling sun and a heavy fire," succeeded in signalling to Colonel Palmer, the commandant of the Mutchee-Bhawun, to spike his guns, blow up the building, and bring his force into the entrenchment. Then there was an interval of intense suspense at the Residency. The movements, upon which so much depended, were to be made at midnight. It was possible that it might be suspected, or, if not suspected, it might be discovered by the enemy's sentries, or scouts, and our retreat thus intercepted. To avert such a calamity, orders were issued by Lawrence to open, a little before midnight, a distracting fire from all the guns and mortars in our batteries, and thus to cover the retirement of the garrison. This was completely successful, fortune favoured the enterprise. At the appointed time, Palmer's little force marched noiselessly through the gates of the Residency, bringing with them their treasure and their guns. The Mutchee-Bhawun and all its contents, consisting principally of commissariat stores, powder, and small-arm ammunition, were to be rendered—so far as a great explosion could render them—unserviceable to the enemy. This work was entrusted to Lieutenant Thomas, of the Madras Artillery, who laid the train. Soon after, a pillar of fire was seen to rise from the Mutchee-Bhawun, which welcome sight was soon followed by the sound of a loud explosion, and then presently was seen a great cloud of smoke, which hung for some time in mid-air over the shattered building and proclaimed its evacuation. Two hundred and fifty barrels of gunpowder and 594,000 rounds of ball and ammunition had been blown up, and much good food for our people was sacrificed at the same time. But the junction of the garrison was so great a gain that there was not much disposition to count the cost. Every man felt that a great danger had been escaped, that a great deliverance had come.

Within the Residency the new comers found the

* *Life of Sir Henry Lawrence*, pp. 604 et seq.

wildest confusion prevailing. Everyone had expected to have to undergo a siege; but the siege began before anyone was ready for it. Native servants, tempted by extraordinary rates of pay to expose themselves to the enemy's fire, were to be seen working with feverish haste at unfinished bastions. Others took advantage of the general confusion to rob their masters. The Chief of the Commissariat had been wounded at Chinhut, and, as his office was in consequence broken up; some of the camp-followers did not know where to apply for their rations, and deserted. Thus forsaken by their attendants, the artillery bullocks wandered helplessly about in

had captured from us, into the room in which Sir Henry and Mr. Couper were sitting. It burst between them and close to both, but without injuring either. Sir Henry's staff earnestly begged him to remove to a less exposed room. This, however, he then declined to do, as he laughingly said, that he did not believe the enemy had an artilleryman good enough to put another shell into that small room; but afterwards he yielded and promised to change his quarters on the following day. Early next morning he went out to post and arrange the force which had come in from the Mutchee-Bhawun and to place the field pieces in position. He returned tired



SIR HENRY HAVELOCK.

search of food till they tumbled into wells; while horses went mad from thirst, and bit and kicked each other in their agony.* No one had time to relieve the sufferings of the wretched animals, for the whole available strength of the garrison was barely sufficient to keep the enemy at bay. On the morning following the explosion of the Mutchee-Bhawun, a calamity not less severe than the defeat of Chinhut overtook the Lucknow garrison.

Sir Henry had taken up his quarters in a room in the Residency much exposed to shot, but convenient for his purpose of observation. On the 1st of July the enemy threw out an eight-inch shell, from the howitzer they

and exhausted about eight o'clock, and laid himself down to rest on a couch in his sitting-room. His nephew, George Lawrence, was lying on another couch in the same room. By the General's side stood Captain Wilson, Assistant Adjutant-General, with one knee on the couch, reading an official memorandum. It was not quite in accordance with his wishes, and he was in the act of explaining what he desired altered, when the fatal shot came. The light of day was gone, but a red glare lit up the darkness, and the stunning noise of the report was followed by the rattle of falling masonry. For a moment no one spoke. Then Wilson cried out, "Sir Henry, are you hurt?" Twice he called out, but there

* *Gubbins*, pp. 193-5, 201-2.

was no answer. At last Sir Henry replied in a low tone, "I am killed." And when the dust and smoke had cleared away, it was seen that the bed on which Lawrence lay was crimson with his blood. A shell from the howitzer, which Bonham had fought so gallantly at Chinhut, had exploded in the General's room, and a fragment of it had wounded him fearfully on the upper part of the right thigh. Presently some of the soldiers of the 92nd came in, and, gently lifting their wounded General, carried him to another room close by. Dr. Fayerer (now Sir Joseph) was at once called by Mr. George Lawrence, the only one in the room who had escaped unhurt. Dr. Fayerer, after examining the wound, saw at once that it was mortal. Then Lawrence asked him how long he had to live. "Forty-eight hours," replied Dr. Fayerer. The sufferer expressed surprise and doubt, for he thought that his end was nearer at hand. The most that human skill could do for him was to mitigate the pain of his dying hours. All that day and part of next Lawrence remained perfectly sensible. He had work still to do, and he did it with all the firmness and collectedness of health. He now formally made over the Chief Commissionership to Major Banks as his successor. On Colonel Inglis he conferred the chief military command, associating him with Major Anderson in a kind of council, and then, after giving them his final directions for the conduct of the defence, besought them, with passionate earnestness, never to surrender. "Let every man," he said, "die at his post, but never make terms. God help the poor women and children." He believed that he had done his duty; he knew that he had tried to do it. And he desired that no epitaph should be inscribed upon his tomb but the words, "Here lies Henry Lawrence, who tried to do his duty." And so when, on the morning of the 4th of July, after bidding farewell to his comrades, he passed away to his rest, they covered up the body until the shades of night had fallen upon the scene. A few European soldiers were then summoned to carry his corpse for burial. Before they lifted the couch on which it lay, one of them raised the coverlet, and, stooping down, kissed the forehead of his dead General, and all the rest did the same. They then carried him out, and laid him in his rude grave, side by side with some private soldiers, who also, in their humble sphere, had given their lives for their country.

"Few men," wrote Brigadier Inglis, when commenting on his demise, "few men have ever possessed to the same extent the power which he enjoyed of winning the hearts of all those with whom he came in contact, and thus ensuring the warmest and most zealous devotion for himself and for the Government which he served." "We have suffered a sad loss," wrote Lord Canning to the President of the Board of Control. "Poor Henry Lawrence died on the 4th, of a wound received on the 2nd, and I do not know the person who can fill his place. Of all men in India, he is the one whose loss is least

reparable at this moment. He would have been invaluable in the pacification of the troubled districts hereafter, both as a soldier and as a civilian."

Days passed, and the fury of the siege continued. Brigadier Inglis, the officer who now commanded the garrison of Lucknow, was a soldier of unsurpassable gallantry, respected and beloved by those who served under him; he was the very man to defend a weak position obstinately to the last, by sheer dogged fighting, and to fulfil the dying adjuration of Henry Lawrence: "*Never surrender.*" The position which he had to defend was, indeed, one which only the most dogged fighting could for a moment have maintained against such an overwhelming force as now surrounded it. At every possible point on which guns could be posted, so as to bear upon one position, batteries were erected, and an incessant shower of shot and shell was poured upon the British Residency and its outworks. Brigadier Inglis wrote: "Our heaviest losses have been caused by the fire from the enemy's sharp-shooters stationed in the adjoining mosques and houses of the native nobility, the necessity of destroying which had been repeatedly drawn to the attention of Sir H. Lawrence by the staff of engineers. But his invariable reply was 'Spare the holy places and private property too, as much as possible'; and we have consequently suffered severely from our very tenderness to the religious prejudices and respect to the rights of our rebellious citizens and soldiery." Those defences had been greatly strengthened after the rough and ready fashion to which hard necessity had driven us. Tables and sideboards, wardrobes and cheffoniers, were gathered together and piled up as barricades. Even the records of Government were dragged from their hiding-places to afford shelter to our garrison. When the siege began, the improvised works were still unfinished. Only two of the batteries which stood at intervals along the line of entrenchment were ready for use. The assailants mustered at least six thousand trained soldiers, who were soon reinforced by a large and constantly increasing number of Talookdars and their retainers. The garrison, on the other hand, exclusive of women and children, amounted only to sixteen hundred and ninety souls.* A large proportion were natives, some of whom were regarded with suspicion, while others were infirm old men. But the slender force of British soldiers and civilians, backed by the loyal sepoys, were animated with an unconquerable resolution to defend themselves and their women to the last. Into the works of defence our people—officers and men alike—flung themselves with an amount of vigorous self-devotion seldom paralleled in the military history of the world. There was no duty to which officers, of whatever rank, did not apply themselves with cheerful alacrity; there was no labour, however arduous or revolting, from which they shrank in the hour

* Gubbins, p. 354.



VIEW OF THE GREAT IMAMBARA, LUCKNOW (LOOKING WEST).

of need ; there was no danger from without or within to which they were not exposed. The fury of the enemy was but one of the many evils which they had to face. Cholera, fever, diarrhoea, small-pox, the plague of boils and flies, the putrid stench from the rotting carcasses of horses and bullocks, the perpetual heat and the remorseless rain affected our people more grievously than the fire of the insurgents.

Lawrence had calculated that by great efforts it might be possible to protract the defence for a fortnight, and four days had already elapsed when Inglis assumed command. The action of the enemy hardly ever ceased, except when they quitted their posts to plunder the bazaars in the city. Aiming securely through the loopholes which they had made in the walls, their marksmen kept up a galling musketry fire, beneath which many of the garrison had already fallen. During the first week many succumbed to this incessant rain of projectiles, fifteen to twenty deaths occurring every day ; and even after experience had taught the defenders to be less reckless in exposing themselves, the daily average for some time did not fall below ten. No place within the entrenchment was absolutely safe. Thus on the 15th, Anderson's house was entirely destroyed by round shot ; on the 18th, many round shots were fired into the Post Office, Foyrer's house, Gubbins's, and the Brigade Mess-house. At one time moreover, the rebels succeeded in setting the Residency on fire. "In fact," as Malleson writes, "they had recourse to every possible expedient excepting one, and when they did attempt that one, it was met gloriously and successfully." The difficulties the garrison at this time had to contend with were many. Nightly fatigue parties for the purpose of burying the dead, carrying up supplies from exposed positions, repairing intrenchments, draining, and altering the position of guns, in addition to attending on the wounded, caused excessive fatigue to the garrison, who had but little rest night or day.* On the night of the 19th of July, the enemy suddenly ceased firing, nor was heavy firing resumed in the morning ; but an unusual movement was discernible in their ranks. The garrison in consequence were well on the alert. Even the wounded left their beds and came down to join in the defence. At 10 o'clock a mine, which had been sunk close inside the outer line of defences, exploded with terrific force. Immediately after the explosion the enemy opened a very heavy fire on the defences near which the mine had been sprung, under cover of which they rushed to the assault. But though they held on till they were close under the walls and even attempted to plant their scaling ladders, though the leader of one of their columns, waving a green standard above his head, leaped with magnificent audacity right into the ditch in front of a battery, and was followed by his comrades till he himself was shot dead ; yet the de-

fenders, Englishmen and Asiatics alike, poured such a concentrated fire into their ranks, that, after four hours' desperate fighting, the whole attacking force fell back defeated and disheartened. The loss on our side was but four killed and twelve wounded. Malleson says : "As a feat of arms, it is scarcely to be surpassed by any feat in history. It was the triumph of British coolness and pluck over Asiatic numbers and swagger. . . . It showed the mutineers they had miscalculated their chances ; that if even it had been possible for them to storm the intrenchment, that time had gone by ; that, unless famine should come to aid them, they and their associate Asiatics would never triumph over that handful of Europeans." On the following day Major Banks, while rashly bending over a wall to watch the operations of the enemy, was shot through the head. The body was buried that night, sewn up in a white sheet. Death was too busy in the garrison to allow any more coffin-making. His place was not filled up. Mr. Gubbins at once urged his right to assume the position of Chief Commissioner ; but Brigadier Inglis, not caring to work with so troublesome a colleague, refused to admit the claim, an arrangement which subsequently received the entire approval of the Governor-General.

From the 20th of July till the 10th of August the enemy contented themselves mainly with keeping up an unremitting fire upon the garrison. They made no general assault. The garrison were so fully occupied in repairing damages, in countermining, often successfully, and in replying to the enemy's fire, that they could not find sufficient time to remove the carcasses of horses and bullocks, the stench from which was almost unbearable ; while the badness and insufficiency of the food added to the troubles of the garrison. On the night of the 21st of July a pensioner, named Ungud, succeeded in passing the enemy's sentries, and making his way into the intrenchment. He told the garrison that General Havelock had defeated the Nana Sahib in three pitched battles, and was, at that moment, in possession of Cawnpore. The news was received with all the more joy because the garrison had daily expected to see the army of the Nana march up to reinforce their assailants.

On the next day Ungud went out again with a letter of information for Havelock. Three days afterwards he returned with the reply that in less than a week the relieving army would arrive. The privations of the garrison were many, although not reduced to the miserable straits that the Cawnpore garrison were by the total failure of their supplies. "But to Englishmen and Englishwomen accustomed to live delicately and to fare sumptuously every day, the scarcity of wanted food, suited to the condition of those so reared, so spoilt by favouring circumstances, was distressing in the extreme. Much of the food served out to them was coarse and

* Journal of a Staff Officer.

unwholesome. There was a great want of bread, for early in the siege the bakers had deserted in a body, and now indigestible chupatties took the place of the accustomed loaf. The gun-bullocks for some time supplied meat to the garrison. Indeed, they were often shot by the enemy faster than the garrison could eat them, and it was sore tribulation to our people to dispose of the rotting carcasses. Tea and sugar, of all things most prized by our women, soon became scarce; and ere long there was a failure of rum and tobacco, very distressing to the European fighting men. The loss of the ordinary 'smoke' was severely felt. The habit was so strong that, rather than smoke nothing, many of our soldiers sucked pieces of ignited cane or

were busily erecting new batteries. But their great resource was mining. Captain Fulton of the Engineers, an officer of energy and capacity, was indefatigable in his endeavours to repair our damaged works, and otherwise to strengthen our defences. Gathering round him a number of old Cornish miners belonging to the 32nd, he made them sink a countermine, wherever the muffled sounds of pickaxe and crowbar revealed to their practised ears that the rebels were at work underground. He himself would often descend into the shaft with a lantern and a pistol, and, waiting patiently till the enemy's workmen had burrowed their way up to him, shoot the foremost man dead.*

On the 10th of August the enemy sprung a second



SIR JAMES OUTRAM

wood, as schoolboys do, and found some solace in the tasteless substitute. Ever and anon, when some well-furnished officer was struck down, there was a sale of his possessions by public auction, and a sharp competition for every article of food and clothing, at prices well described as 'fabulous.' But as weeks passed on and no succour came, the thoughts of the garrison turned gloomily to a future, in which the supplies would be doled out in smaller and smaller portions, until starvation should stare them in the face."

All through the month of July, the fury of the enemy continued to increase. Disappointed in their attempt to storm the position, the enemy were striving to overpower its defenders by sheer weight of metal. They

and a third mine; this blew down a portion of one of the houses, and tore open a breach fully ten yards in width in the outer defences, but did very little harm so far as human life was affected by the explosion. Two soldiers were blown into the road, but neither of them was injured. When the smoke cleared away, some of the enemy advanced close up under the walls, and dared even to seize hold of the muskets of their opponents. They renewed their attack again and again throughout the day, and in the evening, bracing themselves up for a crowning effort, attacked us at several points, and so assured were they of the success of their assaults, that they brought up scaling-ladders with

* *Gubbins*, p. 286.

them ; but they were compelled to beat a retreat, leaving some of their ladders behind them. The result of the day's fighting was that we lost three Europeans and two Sepoys killed, and five or six men wounded.

On the 18th of August they very nearly succeeded in wiping out the shame of their defeat. The explosion of a mine, which was, as usual, the signal for their attack, again destroyed a portion of the wall and blew up an outhouse. By the explosion Lieutenant Mecham, Captain Adolphus Orr, and one drummer, were blown in the air, but descended inside the square amidst the débris of the building, and escaped with little injury. The fourth, Band-Sergeant Curtain, was unhappily thrown outside the works, upon the road, where he was destroyed by the enemy, and seven men were buried alive beneath the ruins. The smoke floated away, but the rebels hesitated to advance. Then one of their leaders mounted the breach, brandished his sword aloft, and called upon the crowd of insurgents to follow him into the works of the Feringhee. In a moment a bullet struck him dead ; another officer who pressed after him fell as quickly ; and the storming party were too terrified to enter the breach, and, before night, the rebels were driven out at the point of the bayonet.

On the 3rd September the besiegers made a last attempt to storm, but, though they advanced with considerable determination, they were repulsed with very heavy loss, and the garrison gained an almost bloodless victory. *The siege had now lasted sixty-seven days*, and within that time the garrison had repelled four general assaults ; had met every mine with a countermine ; had made several sorties ; and had blown up several of the surrounding houses, captured another, and driven the enemy from their strongest advanced post. Yet it was doubtful whether they would be able to hold out till reinforcements came. They had learned that Havelock, after attempting to march to their relief, had been twice obliged to fall back upon Cawnpore, and on the 29th of August, Ungud brought a letter from him, in which he implied that it would be impossible for him to reach Lucknow before twenty-five days, and delivered the ominous warning, "Do not negotiate, but rather perish sword in hand." They had a certainty then of three weeks' continuance of this life, probably of more. One result of this letter was a further reduction in the amount of rations.

On the 5th September the enemy tried their last grand assault. As the sun rose, about eight thousand rebel infantry were descried preparing for an assault. It is needless to add that the garrison were ready, waiting for it. About 10 o'clock the enemy exploded two mines. Fortunately, they had miscalculated their distance, and in each case the explosion did little harm. But, as soon as the smoke had cleared away, they were seen advancing with great resolution, their attack

specially directed against Gubbins' post. "Planting an enormous ladder against the bastion, they essayed to mount it. Several reached the top, but they encountered so heavy a fire of musketry and hand-grenades from the defenders, that not a man could gain a footing. They came on again and again, however, with extraordinary courage, not only against this point, but against the Sikh square and Brigade Mess-house ; nor was it until they had lost an enormous number of men that they fell back, beaten, baffled, and dispirited." (Malleson.) The British loss amounted to but three killed and one wounded. The assailants were now thoroughly dispirited by their repulses, for they never tried a general assault again.

Shortly after this the garrison sustained a severe loss by the death of their chief engineer, Captain Fulton, who was struck on the head by a round shot. The Staff Officer, in his diary, says : "He was a highly-gifted, cool, brave, and chivalrous officer, fertile in resources, and a favourite with both officers and men. No one did more towards our success. He was as brave as he was indefatigable in his endeavours to foil the enemy. He had many personal encounters with our foes underground." The garrison were now getting anxious, exposed as they were night and day to the heavy fire of the enemy, to mines, to surprises, to attacks on isolated posts. The sickness was increasing within the defences, due as much to the unhealthy surroundings as to the season. Cholera, fever, and dysentery were very prevalent. Food was becoming scarce. The live stock, too, was sensibly diminishing. The small stock of rum and porter, reserved only for the sick, was running low. As the numbers of the garrison diminished, the labours of the survivors naturally augmented. About a third of the European soldiers had perished in the siege, and the survivors were dreadfully depressed by the manifold trials which they had undergone. The Brigadier had not slept with his clothes off since the 16th of May, and was so exhausted by toil and anxiety, that those about him daily feared he would break down. There was not a house that was not riddled with shot, and some had fallen, burying the inmates under their ruins. Some of the men had been heard to declare that they would shoot their wives with their own hands rather than suffer them to fall into the power of the rebels.* While the garrison was in this dreadful situation, at 10 p.m. on the 16th of September, the pensioner Ungud, stimulated by the promise of five thousand rupees if he should succeed in his mission, was again sent out with a letter rolled up in a quill for General Havelock. He was absent just six days. But relief, if not deliverance, was now closely at hand. Havelock's force, having overcome the prodigious difficulties in its way, was now rapidly advancing. Outram had joined the army, whose ranks were swollen

* Gubbins, Rees, Mrs. Case's Day by Day at Lucknow, Polehampton.

by reinforcements from below, and the long-looked-for advent was now emerging from the obscure distance. Ungud, the noted scout, returned at 11 P.M. on the 22nd, bringing with him a letter containing the gratifying intelligence that the relieving force had crossed the Ganges and would arrive in three or four days! To guard against that depression amongst his men apt to be engendered by disappointed hope, the Brigadier put on ten days to the time, and announced to the garrison that help from outside would arrive certainly within a fortnight. The news spread like wildfire. The hearts of the garrison were lightened by the cheering intelligence. The spirits of all rose to the highest point; and the native portion of the garrison were now at last convinced that relief was really at hand. Ungud was the hero of the hour. He was greatly excited by his success, for he had been fired upon as he entered our works, and narrowly escaped destruction. He thought, however, he had had enough of this dangerous service, and he said to Brigadier Inglis, "Now I have got back three times, I will go back no more, but live or die with you."

The exigencies of the situation demanded that the help in trouble should be speedily present. The rain was falling heavily and rendered more untenable the buildings, already shaken and shattered, to which we looked for some semblance of shelter. Provisions and necessities of all kinds were becoming woefully scarce. Our European soldiery were reduced to a dram a day. At an auction held at the Residency, a bottle of brandy realised £1 14s., a new flannel shirt £4, whilst five old ones fetched £11 4s., and £2 were given for a small chicken. A few more weeks would have brought us to the direst extremity. The enemy, who seemed to have received intelligence of the advance of our reinforcements, did not slacken in their hostile activity.

On the 25th a sad calamity occurred in our garrison. One of the very best of our officers, one who had been ever foremost in attack and defence, whose cheerfulness under all depressing circumstances had set a gallant example—Captain Radcliffe, of the 7th Cavalry—was mortally wounded whilst in command of the Cawnpore battery. On the 23rd, the day following Ungud's return, a smart cannonade was heard in the direction of Cawnpore, and a considerable movement of troops was observed in the city. On the 24th a similar sound of distant firing and a similar movement of troops in the city were noticed likewise. The night that followed was very unquiet, two alarms keeping the whole garrison under arms. It subsequently transpired that the enemy, aware of the near approach of the relieving force, were determined to use all possible means to prevent communication between that force and the garrison. At 10 o'clock the following morning a messenger arrived bringing an old letter from General Outram dated the

16th. The messenger could only add of his own knowledge that the relieving force had reached the outskirts of the city. The anxiety of the garrison now became intense. There were many manifest signs, beyond the lines of our defences, that our reinforcements were approaching. At noon the sound of musketry and cannon close at hand gladdened their ears, whilst the smoke from the discharge of the latter showed that their friends were within the limits of the city. The day of trial dawned at last. On the morning of the 25th September, Havelock rose early, and at eight o'clock the troops were drawn up ready to advance. Harassed by musketry, and raked on its flank and in front by an artillery fire, the column pushed steadily on towards the canal. The bridge was commanded by innumerable sharpshooters, perched in the rooms of the adjoining houses, and defended by six guns posted on the Lucknow side. While Outram diverged to the right with the object of bringing a flanking fire to bear on the enemy from the bank of the canal, Maude endeavoured to silence their guns; but his men fell so fast that he had to call again and again for volunteers from the infantry, and, the resistance being obstinately maintained, Neill at last ordered the Madras Fusiliers to charge. Some twenty-five, springing forward before the regiment was formed up, were dashed to pieces in an instant. But young Havelock, who had ridden on with them, sat in his saddle, sword in hand, calling on the men to come on. Jakes stood by his side, loading and firing as fast as he could. Standing alone on the bridge, the two Englishmen—the daring officer and the gallant private—were exposed to a fire from all the neighbouring houses, every wall loop-holed, every roof occupied. In the language of Outram, "they were the target for many muskets." A few seconds later the Madras Fusiliers came up with a rush, swarmed over the parapet and through the gap, and carried all before them. The 78th Highlanders followed, and the captured guns were spiked. While directing the movements of his men, in the moment of victory, which he had done so much to secure, General Neill fell from his horse, shot through the head. But there was no time to think of the fallen. The column now rushed on, heedless of all obstacles; now plunging through deep trenches which had been cut across the road to bar their progress; now staggering, as they rose, beneath the storm of bullets which hailed down upon them from the loop-holes of the houses, and the missiles which were flung from the roofs. But they were now within a few yards of the goal; they could see the tattered flag of England, waving on the top of the Residency, and though men fell fast at every step, the survivors never paused till Outram and Havelock led them through the gate into the entrenchment. Captain Wilson, in his journal, writes: "The troops once fairly seen, all our doubts and

fears regarding them were ended; and then the garrison's long pent-up feelings of anxiety and suspense burst forth in a succession of deafening cheers. From every pit, trench, and battery,—from behind the sandbags piled on shattered houses—from every post, still held by a few gallant spirits, rose cheer on cheer. Even from the hospital many of the wounded crawled forth to join that glad shout of welcome to those who had so bravely come to our assistance. It was a moment never to be forgotten. *For eighty-seven days* the Lucknow garrison had lived in utter ignorance of all that had taken place outside. Wives who had long mourned

their husbands as dead were again restored to them. Others, fondly looking forward to glad meetings with those near and dear to them, now, for the first time, learned that they were alone. On all sides eager inquiries for relations and friends were made. Alas! in too many instances the answer was a painful one.* With the arrival of that force concludes the episode of the first siege and relief of Lucknow.

* *The Defence of Lucknow: a Diary by a Staff Officer.*

Mallesson, vol. i. pp. 536-7, gives a detailed and brilliant account of the capture of the bridge.

J. C. D.



POR TABLE RAILWAYS FOR FIELD PURPOSES.

BY KARL VON AUSLAND.

(Concluded from page 132.)

The Koppel System.



ERR KOPPEL distinguishes between three types of portable railways—those which are intended to remain in operation during a considerable period, those which are only required for a few months, and lastly, the portable railway proper, which is taken up at one end almost as fast as it is laid down at the other.

For the first type, the sections are constructed as a

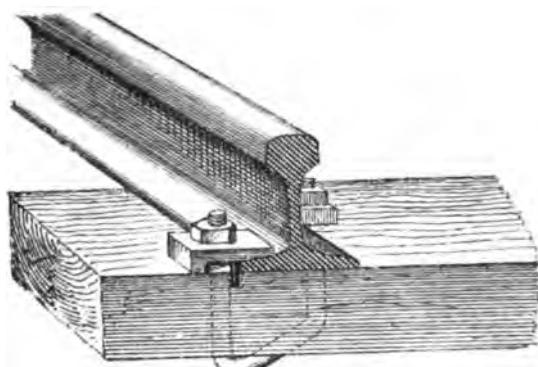


FIG. 26.

rule from five to six inches in length. They require, of course, a previous preparation of the ground; but the inventor claims that, notwithstanding this, a railway suitable for heavy and continuous traffic may be laid down with extreme rapidity and ease.

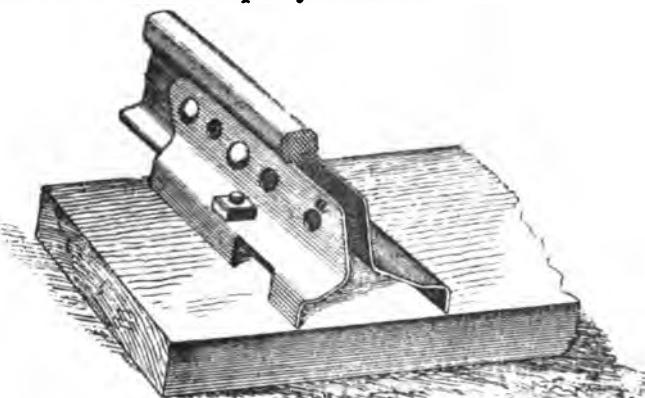


FIG. 27.

The sections of the second type, for which no previous planishing of the soil is necessary, are somewhat shorter. The rails are manufactured of Bessemer steel, and joined as shown in Fig. 26 to the sleeper, which is

usually of wood. A shackle-screw connected with two holdfasts is driven into the wood at such an angle that the chances of splitting are reduced to a minimum. The holdfasts are provided with long teeth, which grip the wooden sleeper and prevent any shifting of the rails or widening of the gauge.

For the third type, or strictly portable railway, Herr Koppel has invented several systems of joints, which would be employed according to the rapidity of construction required. The joint shown in Figs 27 and 28 is intended for light railways, which would remain several days or weeks in the same position. The inventor claims that the arrangement shown in these diagrams ensures great solidity together with consider-

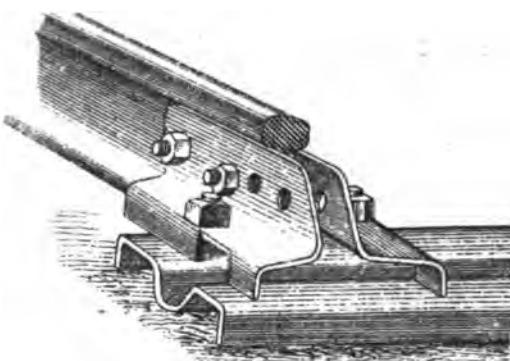


FIG. 28.

able adaptability to peculiarities of ground. The connection consists of two strong fish-plates embracing the stem and foot of the rail, and firmly joined to the sleeper. Fig. 30 shows the application of this system to wooden, and Fig. 31 to steel sleepers. The connec-

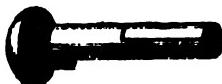


FIG. 29.

tion is effected by simply pushing the end of one rail between the fish-joint plates of the next. When extreme solidity is required, an auxiliary screw-bolt, shown in Fig. 29 is employed. This bolt passes through

the aperture *a* in the fish-joint, and through a corresponding cavity in the rail of the next section. When this is done, the pin is turned round, as shown in the diagram, and all tendency to shift is thereby prevented.

For railways in which solidity must necessarily be sacrificed to speed of construction, and which are not likely to remain more than a few days or hours in the same place, Herr Koppel employs a somewhat different system of joint, adapted for traffic over the roughest

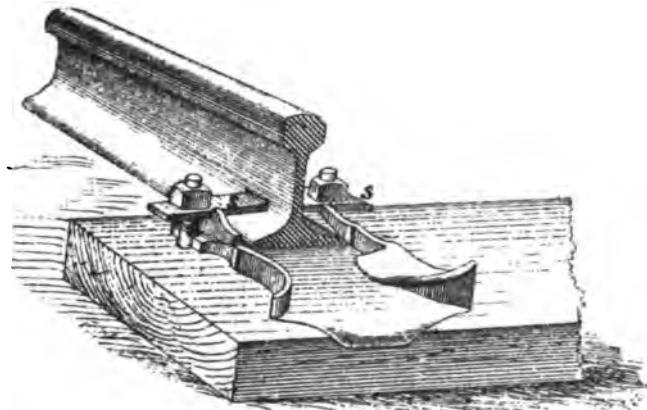


FIG. 30.

ground. This method is shown in Fig. 30 in its application to wooden, and in Fig. 31 to steel sleepers. A thick plate *s* passes through the stem of the rail at its juncture with the foot, and is connected at both ends with the sleeper by means of strong screw-bolts. The foot of the rail is, moreover, overlapped by a plate

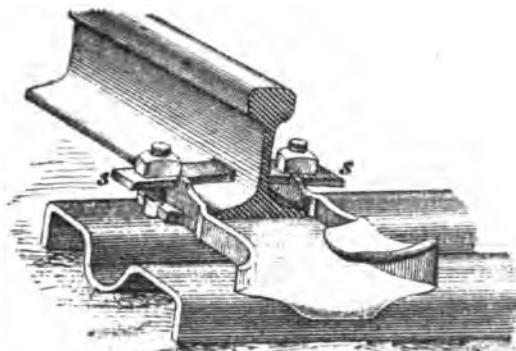


FIG. 31.

forming part of the channel in which the whole system rests, and this not only obviates any outward displacement of the rails, but allows of a certain play in a vertical direction. The sections provided with joints of this kind are, as a rule, about 1·25 metres long; but where the railway is being laid upon a highroad, or over flat country, their length may be increased with advantage.

The Koppel inclined-plane point is extremely simple in construction, and is said to work very satisfactorily. It may be used without any disturbance of the main

or side tracks, and is so constructed that by a slight alteration it may be used either as a left or right turn-off. The inclined-plane is made in two independent parts, each of which may be carried by one man.

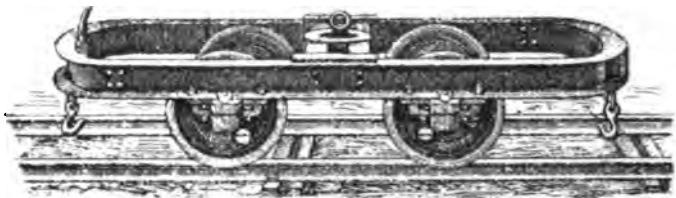


FIG. 32.

Herr Koppel claims many advantages for what he calls the universal wagon or bogie, shown in Fig. 32. It may be constructed either of wood or steel, and adapted to almost any purposes of locomotion. Moreover, it is so light that it may easily be tilted off the line or replaced on it by two men. A bogie of this kind, built of wood, has a carrying power of 1,800 kilogrammes. When a platform is placed on two trucks, as in the Dolberg and Décauville systems, a bolt passing through the centre allows the bogie to turn independently of the platform, which is itself supported on rollers.

Should the railway, owing to irregularities of ground or hasty construction, be somewhat insecure, Herr

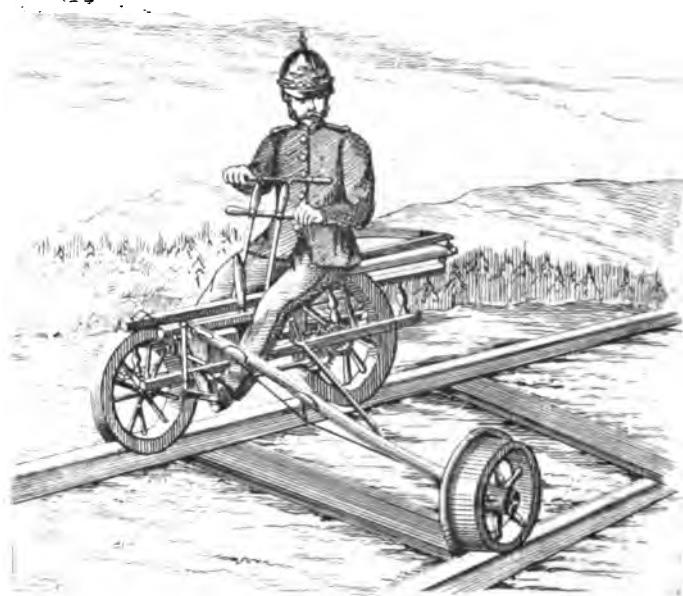


FIG. 33.

Koppel advocates the use of doubly-flanged wheels. These not only exercise less wear and tear on the permanent way, but ensure the wagons and carriages against derailment.

For rapid transport when steam power is not employed, Herr Koppel has designed a railway tricycle, shown in Fig. 33. This machine may be propelled either

by the hands or feet, and, owing to the smoothness of the running, a very considerable speed may be attained upon it. A strong brake is provided; and, in order to ensure compactness in transport, the single side wheel with the cross-bar is detachable from the body of the machine. Tricycles may be constructed on this principle for two or more persons; and would be found extremely valuable for the conveyance of despatches in war.

The Krupp System.

The Krupp portable railway differs from the systems previously described, in the construction and attach-

distance of 1·5 metres, of 1,000, 1,400, 1,750, and 2,150 kilogrammes; and, at 2 metres, of 650, 900, 1,100, and 1,300 kilogrammes respectively. The construction of the sleeper may be seen from Fig. 34. Its weight is 5·6 kilogrammes.

The connection of the rail with the sleeper is effected

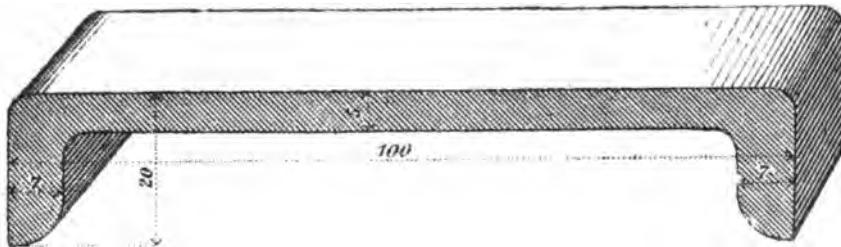


FIG. 34.

FIG. 35.

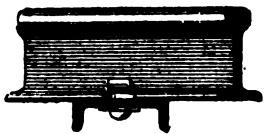


FIG. 36.

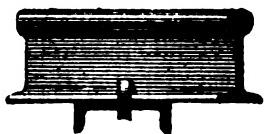


FIG. 37.



FIG. 38.

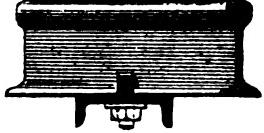


FIG. 39.

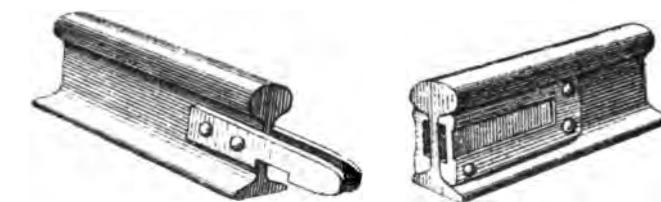
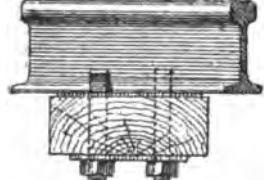


FIG. 40.

in several ways, shown in Figs. 35, 36, 37, 38, 39. In the arrangement sketched in Fig. 35, the rail is held down by two movable pins attached to a screw-bolt. By turning the pins through 90 degrees, the rail may be either fixed or detached. In another system, shown in Fig. 36, an iron plate, passing underneath the sleeper, enve-

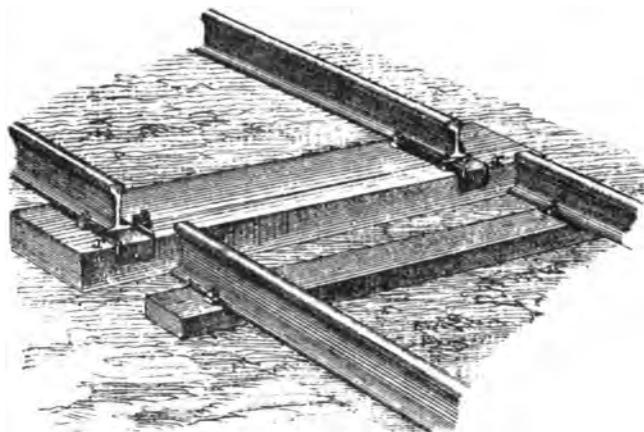


FIG. 41.

ments of the sleeper. The rails are of four types—4, 5, 6, and 7 kilogrammes per metre (8, 10, 12, and 14 lbs. per yard). Their heights are respectively 50, 55, 60, and 65 millimetres. At a distance of 1 metre from the sleeper, these rails can bear loads of 1,700, 2,400, 3,000, and 3,600 kilogrammes respectively; at a

distance of 1·5 metres, of 1,000, 1,400, 1,750, and 2,150 kilogrammes; and, at 2 metres, of 650, 900, 1,100, and 1,300 kilogrammes respectively. The application of the last system to wooden sleepers is shown in Fig. 39.

The Krupp section-joint does not materially differ from that of Décauville.

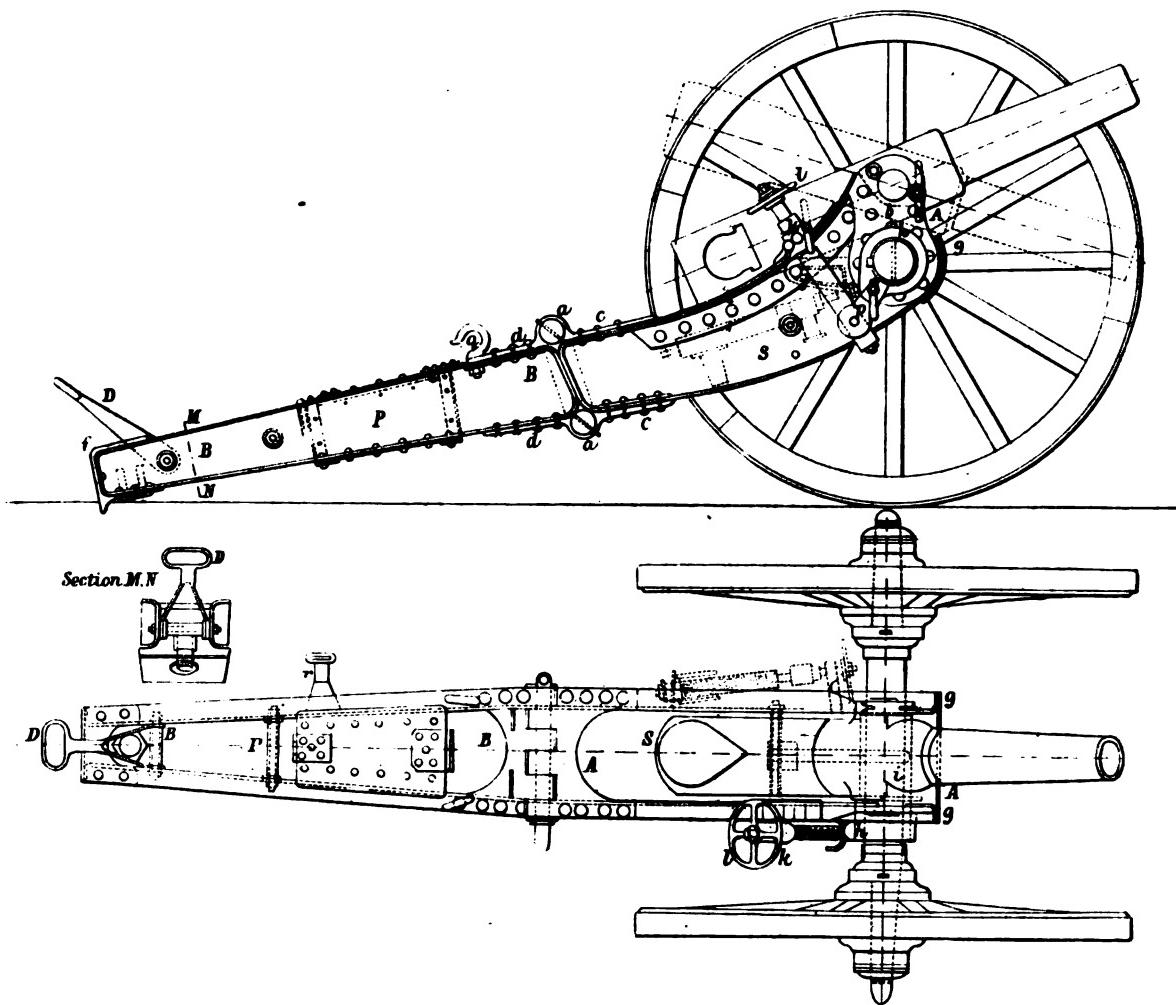


FIG. 2.

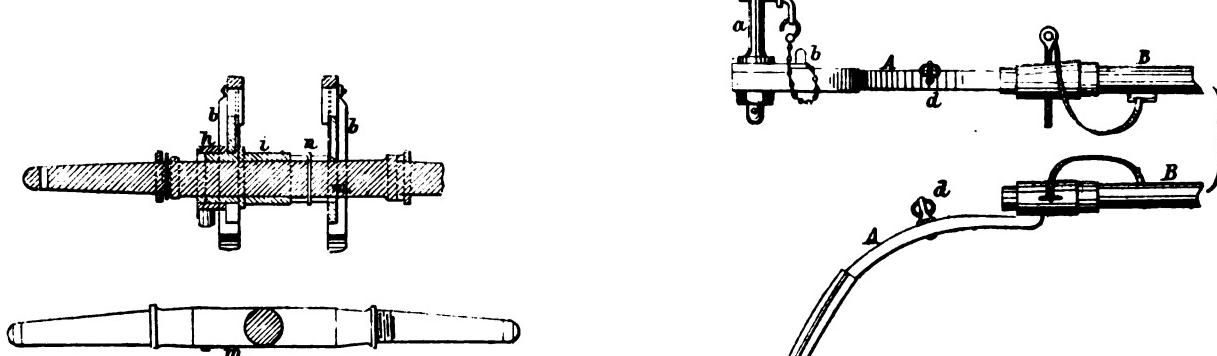


FIG. 3.

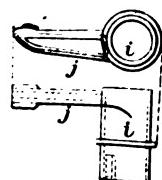


FIG. 4.

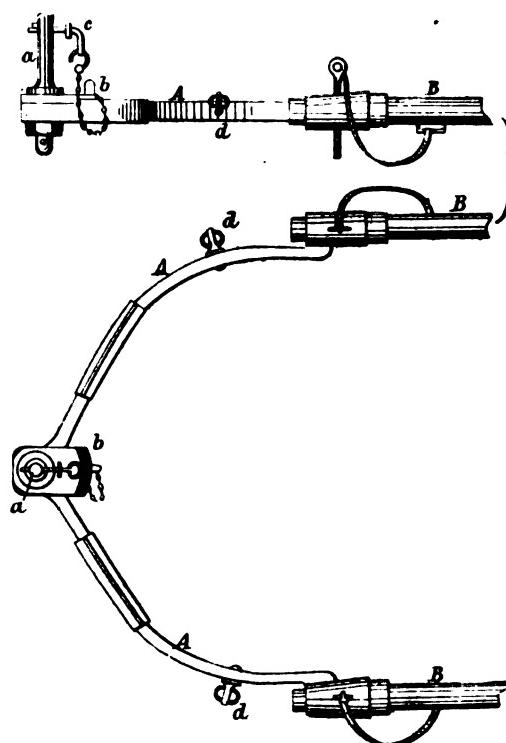


FIG. 5.

THE RUSSIAN MOUNTAIN ARTILLERY MATÉRIEL.

(From the *Mittheilungen über Gegenstände des Artillerie- und Genie-Wesens*.)



ITHIN the last year, the Russian mountain artillery has undergone a complete re-armament. After long hesitation, the authorities have adopted a steel gun, constructed in Russia on the Krupp pattern (Fig. 1). The principal dimensions of the new gun

are:—

Calibre	6·35 centimetres.
Weight	98·28 kilogrammes.
Length	101 centimetres.
Initial twist	40·4 calibres.
Final twist	20 calibres.
Number of grooves	20.
Length of rifled portion of bore	77·92 centimetres.
Preponderance	24·6 kilogrammes.

With the object of obtaining a long line of sight, the fore-sight is placed near the muzzle instead of near the trunnions. The carriage is extremely long in order to ensure stability during fire, and owing to its consider-



FIG. 1.

able weight, which prevents its transport as a whole, it has been so constructed that it may easily be taken to pieces and packed on two horses. It consists, therefore, of two parts, the head of the cheek S, and the trail P, which are firmly connected together by means of a hinge joint, secured by bolts *a* (Fig. 2). The cheeks of the carriage consist of iron plates, the edges of which are bent outward. They are joined together by the plates *g* and *f* at the extremities, *c* and *d* in the middle, and by a number of strong bolts. The trunnion plates *b* are riveted inside the cheeks of the carriage. In order to minimise the recoil when the gun is being fired in a restricted space, ropes are attached to the hook *q* in the centre of the carriage, and to the naves of the wheels.

The sighting apparatus (Figs. 2, 3, and 4) consists of the box *i*, and the lever *j*, the end of which rests on the breech of the gun. The screw nut *p*, firmly attached to the hoop *h*, carries the elevating screw, which is operated by a hand-wheel *l*. The screw rests in a bearing *k*, firmly connected with the cheek of the

carriage. This arrangement allows the screw to revolve, but prevents any longitudinal shifting.

The wheels weigh 65·5 kilogrammes, and have a diameter of 104·2 centimetres.

For transport on horseback, the tube is disconnected, the wheels are taken off, and the carriage divided into two parts by drawing out the bolts *a* (Fig. 2). In order to decrease the preponderance on the right side, the elevating screw is carried on the left, as shown by the dotted line in Fig. 2. The sponge is attached on the march to the hook *r*.

In Fig. 5 are shown the iron whipple-tree A A, the pintail *a*, and the shafts B B. When the gun is to be hauled, the pin *c* is inserted into the pintail *a*; and in order that the trail may be raised above the ground, the whipple-tree A A is provided with the check collar *b*, against which the trail-block rests. When the trail is detached from the whipple-tree, the latter is held up by means of a strap *m* (Fig. 6) attached to rings *d* (Fig. 5). If one horse is insufficient, the traces of a second may be attached to suitable hooks on the shafts.

When the gun is transported on horseback, the shafts may be detached from the whipple-tree. In this case four horses are employed. The tube of the gun is carried by one (Fig. 7), the carriage by the next two (Figs. 8 and 9), and the wheels, together with the whipple-tree and shafts, by the fourth (Fig. 10). The horse on which the trail end of the carriage is packed also carries two cases with various articles of equipment.

The shell (Fig. 11) used with this gun is double, and has the following dimensions:—

Length	2½ calibres.
Weight	4·095 kilogrammes.
Weight of bursting charge	72·4 grammes.

The shrapnel (Fig. 12) is of steel. The bottom *n* is circular in section. In order that the geometrical centre of the projectile may coincide with its centre of gravity, a conical tube *q*, in addition to the ordinary tube *m*, is placed with its upper surface parallel to that of the projectile, and about ten millimetres distant from it.

The space between the tubes *q* and *r* is filled with bullets imbedded in sulphur. The principal dimensions of the projectile are:—

Weight	4·095 kilogrammes.
Number of bullets	88.
Diameter of bullets	10·6 millimetres.
Weight of each bullet	10·659 grammes.
Weight of bursting charge	29·82 grammes.

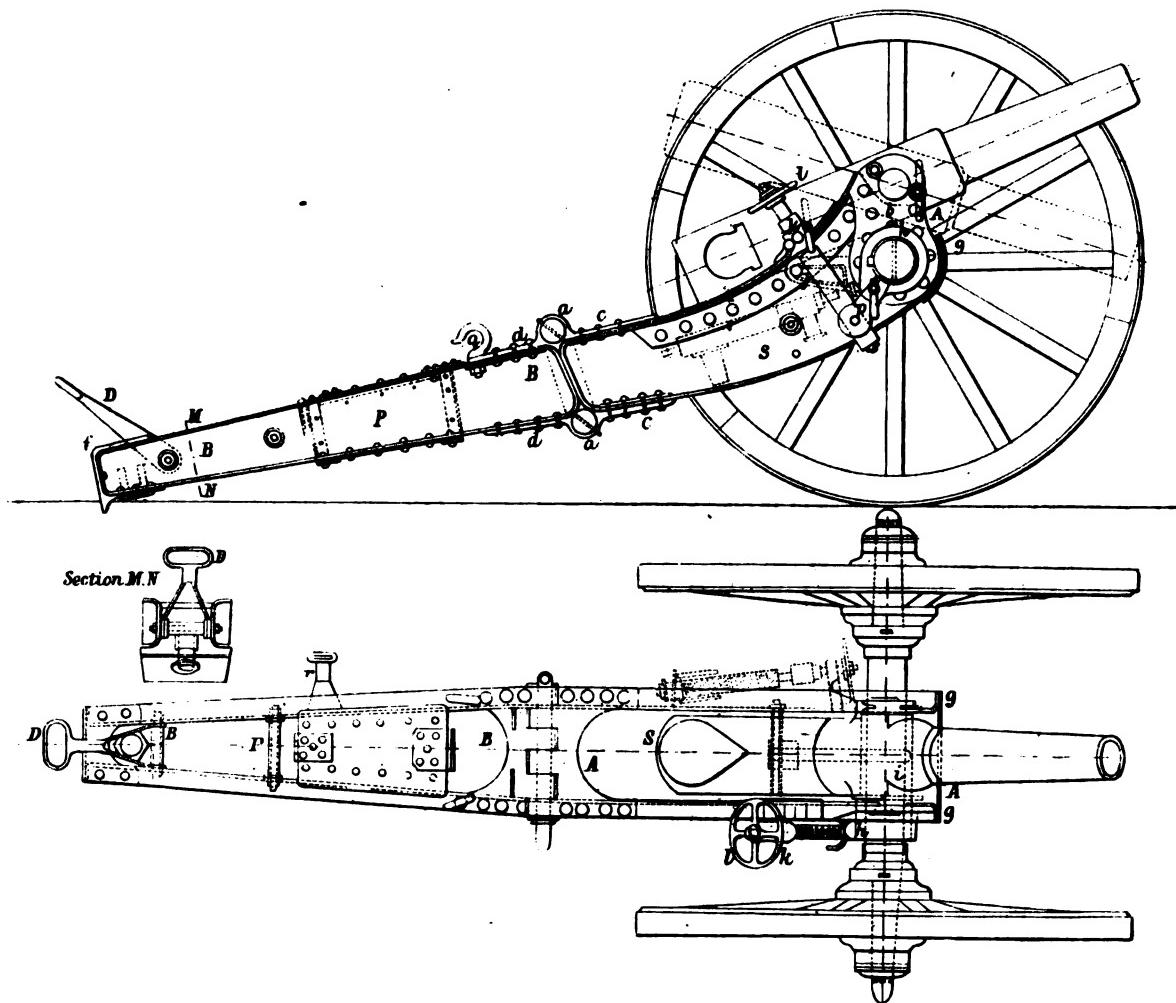


FIG. 2.

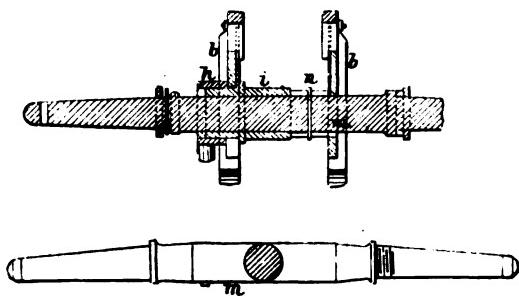


FIG. 3.

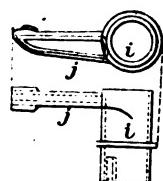
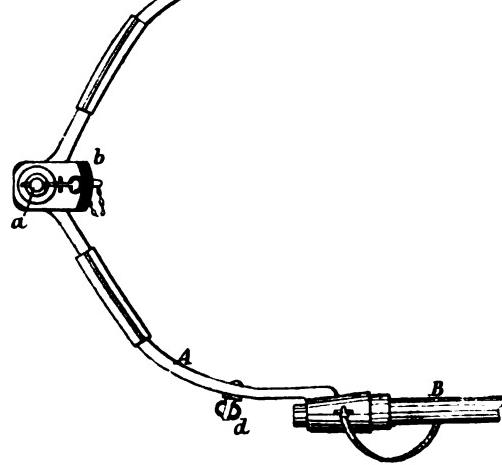
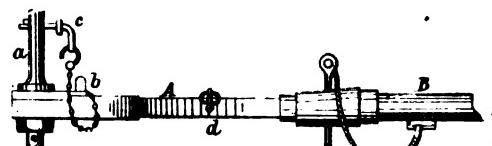


FIG. 4.

FIG. 5.

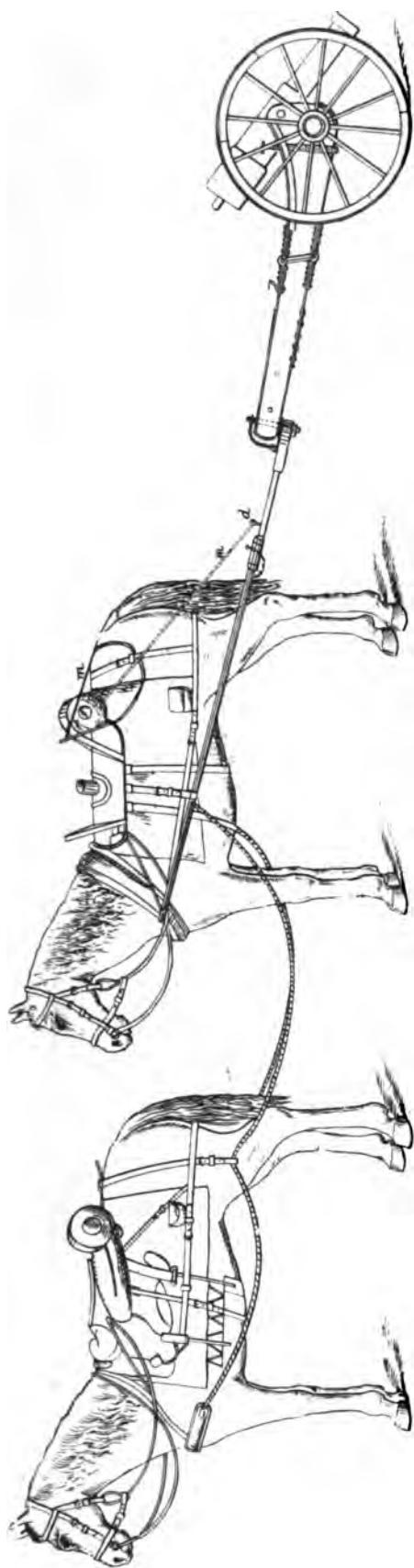


FIG. 6.

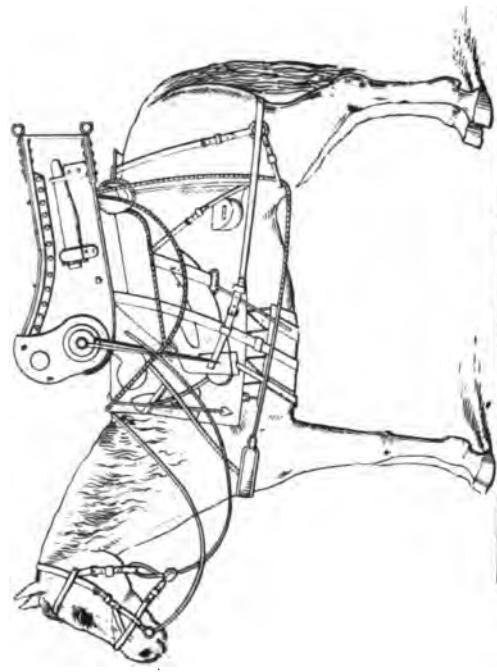


FIG. 8.

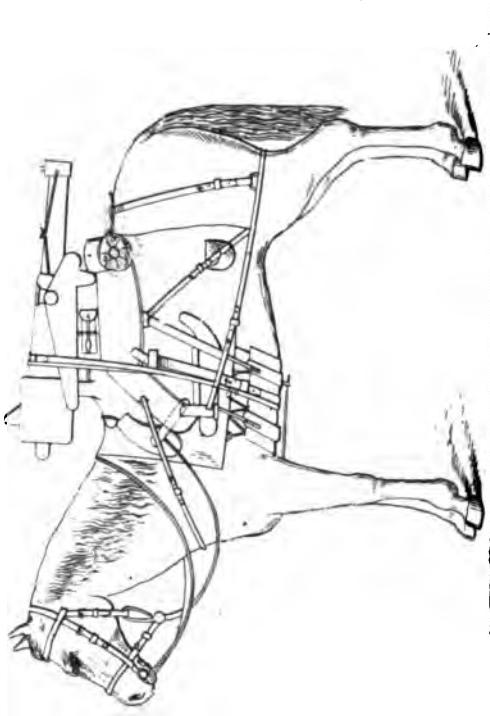


FIG. 7.

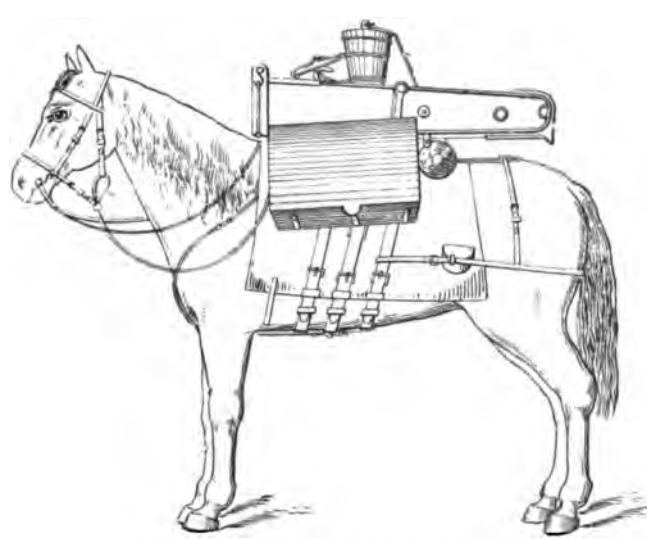


FIG. 9.

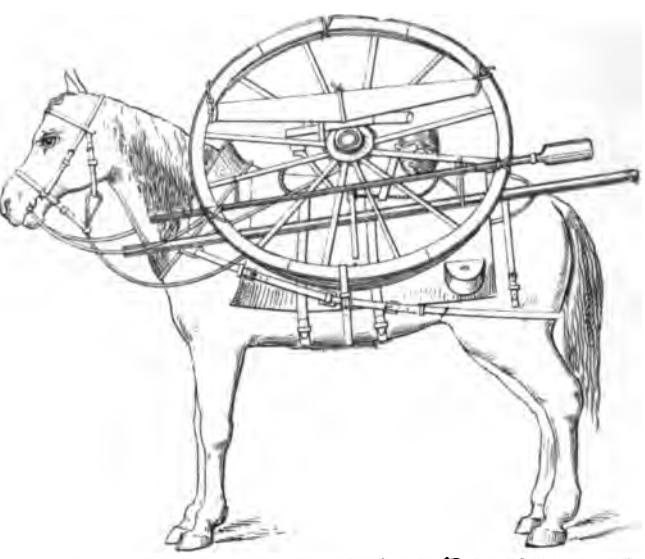
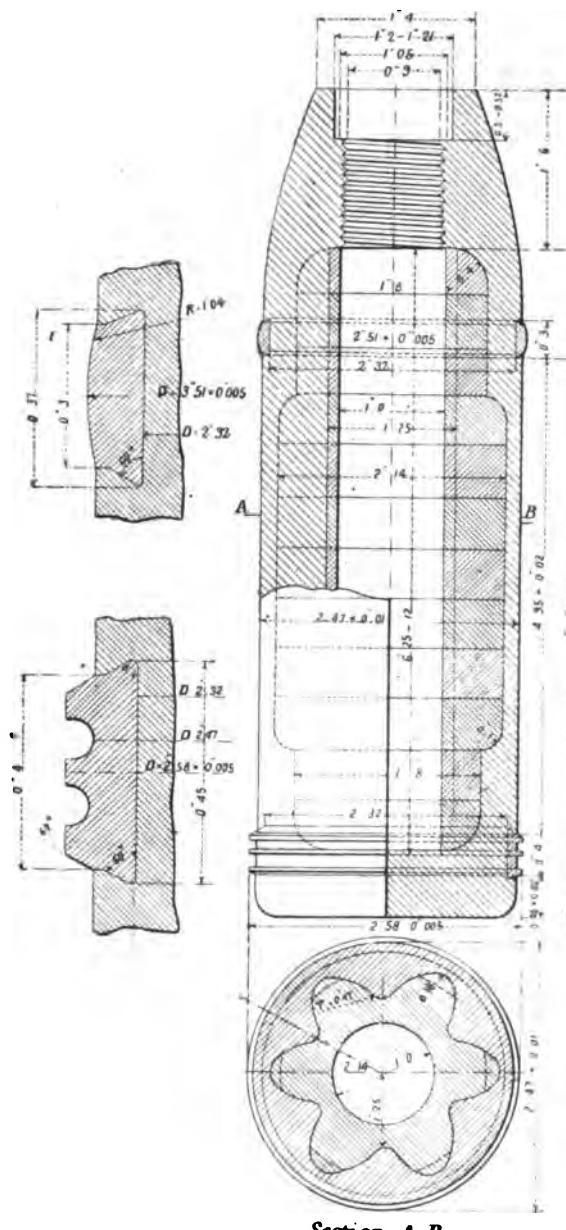
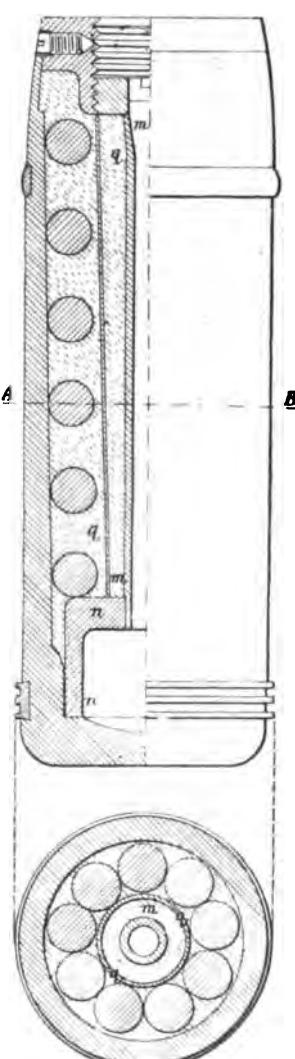


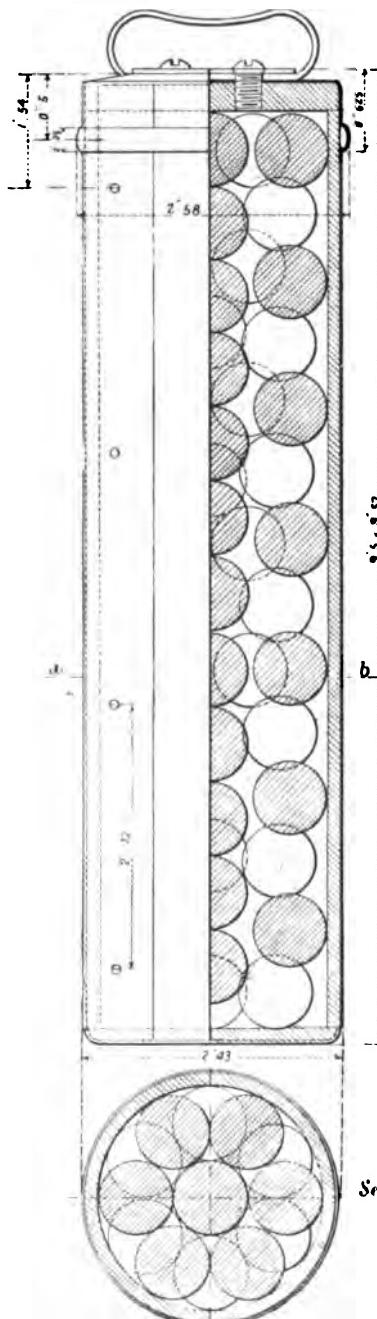
FIG. 10.



Section A.B



Section A.B.



Section A.B

FIG. 11.

FIG. 12.

FIG. 13.

The shrapnel is provided with a 10-seconds time fuze. The case shot (Fig. 13) contains ninety-six zinc bullets. Its chief dimensions are:—

Weight 8·28 kilogrammes.

Weight of each bullet 25·5 grammes.

Diameter of bullets 19 millimetres.

vertical. In order to ensure a firm connection between the box and the gun, a hook, I, screwed into the latter, engages in a slot *k* in the former.

The ammunition case (Fig. 15) holds six projectiles and six cartridges. The former are placed in the compartments *A*, the latter in *B*. The case is made water-

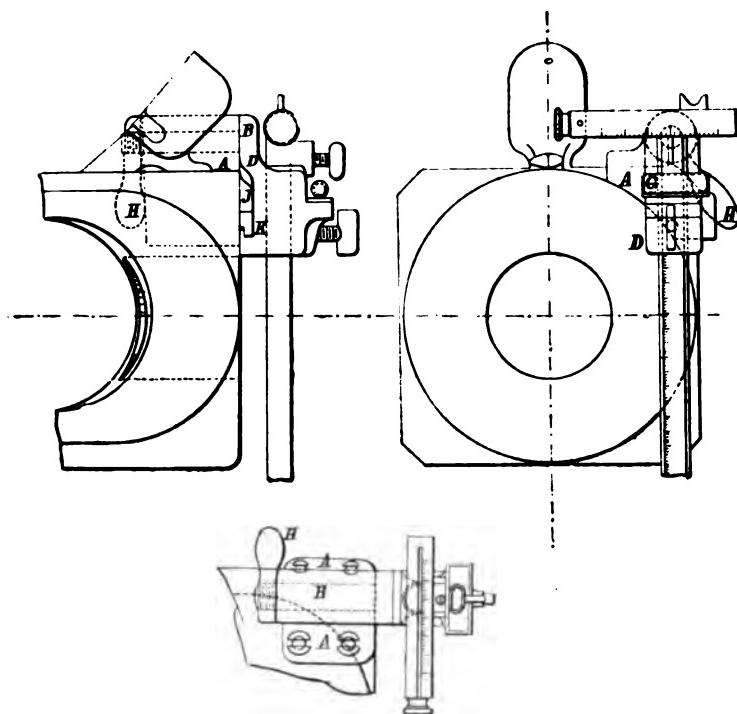


FIG. 14.

The initial velocity of the gun is 284 metres per second.

The back-sight *D* (Fig. 14) is placed in a suitable hollow at the breech end of the gun, and kept in position by a lever *H*. It is provided with a spirit-level *G*, by means of which the tangent-slide may be kept

proof by means of the firmly-fitting lid *b*. It is attached to the pack-saddle by the hooks *a*.

One horse (Fig. 16) can easily carry two of these cases; and since each gun is provided with eight horses for the transport of ammunition, sixteen cases are always available.

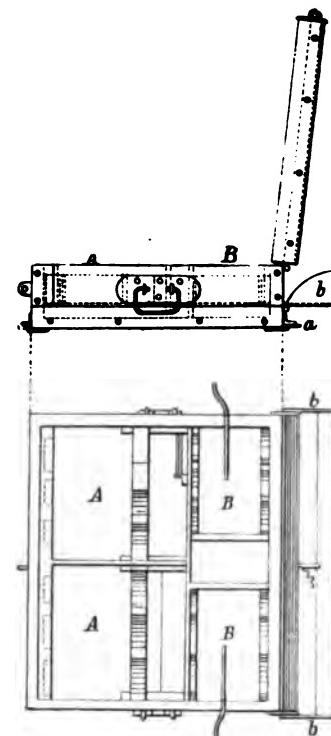


FIG. 15.

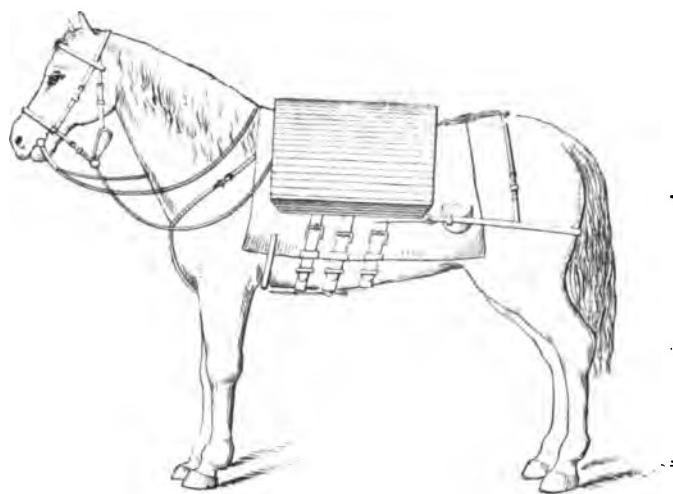


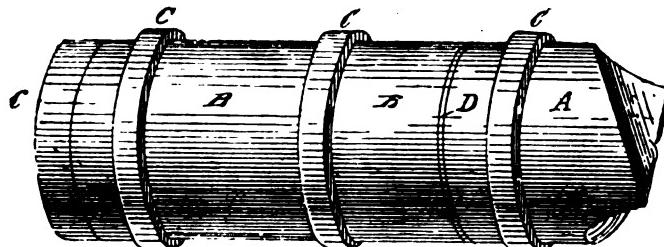
FIG. 16

A NEW ARMOUR-PIERCING PROJECTILE.



R. DE LANCY KENNEDY, of New York, has invented an armour-piercing projectile of a novel and somewhat curious kind. The end is so shaped as to effect what he calls a "continuous shearing cut, similar to that formed by a pair of shears."

The general construction of the projectile may be seen from the accompanying diagrams. The end is chisel-pointed, and a spirally-inclined contour around



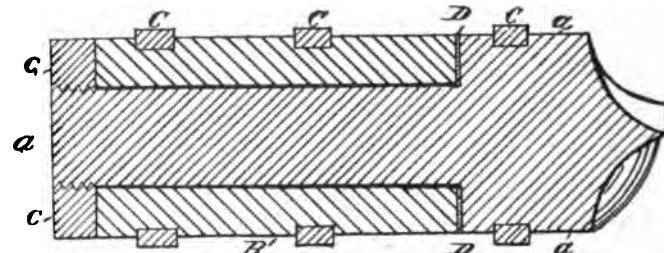
THE KENNEDY PROJECTILE.

the circumference ensures the continuance of the "shearing cut." On striking the target, "the penetration would commence at the centre, extending radially to the periphery, and around the latter on an incline." The chisel-shaped end A is constructed either whole, or in part, of hardened or suitably tempered steel, and is provided with a pin or axle a. B represents the larger and heavier part of the body of the projectile, which is cylindrical in form and rests upon the pin or axle a, on which it is free to turn. The part B constitutes about two-thirds of the length of the entire projectile, and may be constructed of cast iron. The two parts A and B are grooved or recessed, and provided with bands, C, of softer metal. The end of

the pin a is screw-threaded at its outer end to receive a circular nut c, of the same diameter as the body of the projectile. D is a washer, constructed of an anti-friction metal, surrounding the pin a and placed between the two parts A and B.

The operation of the projectile is, according to the inventor, as follows:—

When the forward end of the projectile strikes and penetrates an armour plate, it is prevented from continuing the rotary movement imparted to it by the rifled construction of the gun from which the projectile has been discharged; but, as the part of the projectile having the greater weight is still permitted to revolve, while incapable of longitudinal movement, the rotary motion given to this part of the projectile may continue until the force has been expended. The object of making the heavier part capable of rotary movement is to prevent



SECTION OF THE PROJECTILE.

the projectile from fracturing, which would be the case were the whole mass suddenly prevented from revolving.

We are not aware that Mr. De Lancy Kennedy has submitted his invention to serious practical test. Until this has been done the value of the "continuous shearing cut" will appear extremely problematical.

THE McEVOY PRIMER AND FIRING MECHANISM.



R. McEVOY'S primer, which is inserted into a small recess at the centre of the base of the cartridge, is formed, as usual, of a small metallic case, having within, and insulated from it, a central metallic stem protruding through a hole in the rear of the case, and exposed to the action of a striker or contact pin. The inner end of the stem is connected by a thin platinum wire with the outer case, and through this wire an electric current passes when contact is made. The stem is insulated from the outer case of the primer by means of cheap flexible material, such as parchment, leather, paper, or india-rubber.

The primer, shown in longitudinal section on an enlarged scale in Fig. 1, consists of a short metallic cylinder A, of relatively small diameter, with its edges at one end turned inward. Into this end is placed a

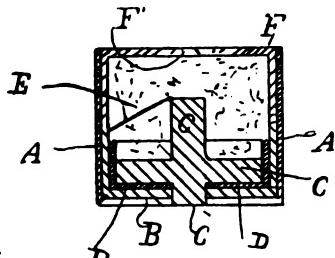


FIG. 1.

flat-bottomed metallic cup B, having cylindrical sides which fit into the interior of the outer cylinder. A hole is formed through the centre of the flat bottom; and one end of a metallic stem C, contained within the cylinder, and of smaller diameter than the hole, protrudes a short distance through the latter. The end of the stem is also passed through the centre of a disc D, of parchment or similar non-conducting material, of somewhat larger diameter than the cup. The stem has a disc flange C' around it, fitting into the cup, but separated from the bottom of the latter by the parchment disc D, the edges of which bend up around the circumference of the flange, and prevent contact with the sides of the cup. By covering these parts with shellac, they hold more firmly together, and, at the same time, act as better insulators.

The thin platinum wire E is soldered to the inner end of the central metallic stem C, and the outer circumference of the cup. Into the opposite end of the cylinder is inserted another metallic cup F, which

serves to enclose the gunpowder or other explosive G. The cup F is provided at its extremity with a hole F', through which the flash can pass when the explosive is fired, but previously covered with paper or other material to retain the powder and make the joint watertight.

The mechanism employed for igniting the electric fuse is briefly as follows:—In guns with sliding breech-

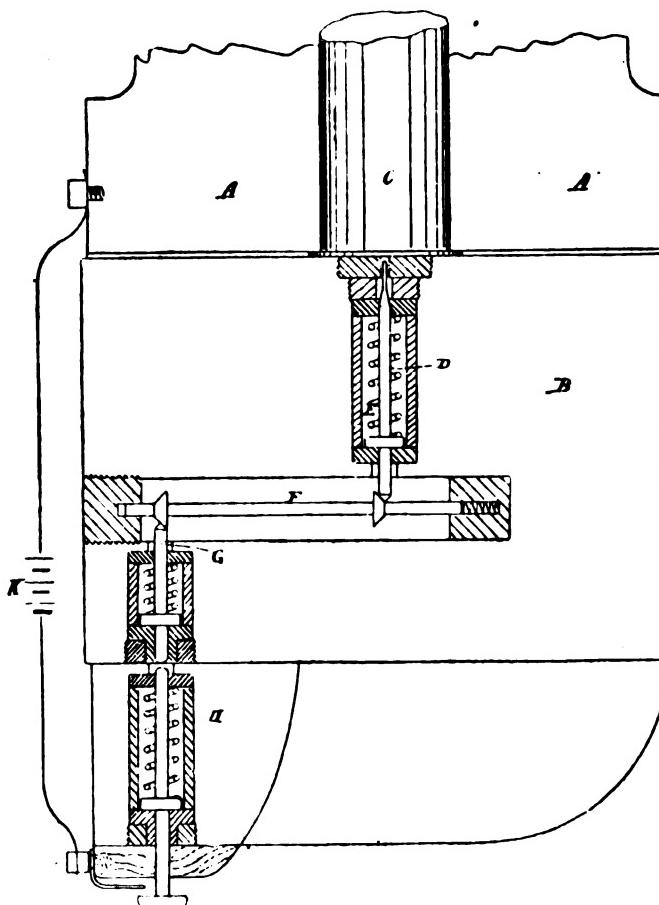


FIG. 2.

pieces, such as those employed in the Hotchkiss system, an insulated conductor in one or more pieces passes through the breech, from a point opposite the rear centre of the bore to a point near the end of a firing key carried by the rear end of the gun. The conductor is so arranged that, when the breech is closed, the circuit is broken in two places—not only between the end of the firing key and the end of the conductor, but between the other end of the conductor and the primer of the cartridge. Both contacts are made when the firing key is pressed inwards.

In the arrangement shown in Fig. 2, the two breaks are at the extremities of the insulated conductor, which is carried through the breech-piece. A is a part of the barrel of the gun, B the breech-piece, lying within a slot in its rear end and closing the barrel, but which may be slidden or turned aside in the ordinary way to open the breech. C is part of a metallic cartridge case carrying, at the centre of its base, an electric fuse constructed on the system above described. D is a contact pin carried by the breech-piece, and brought into a line with the centre of the barrel when the breech is closed. Normally its forward end is held back, as shown, by a coiled spring E, so that when the breech is closed no current can pass from it to the fuse. It can, however, be pressed forward and caused to make contact with the fuse by the action of sliding rods F and G, and the firing pin H, which is carried by the portion of the gun in rear of the breech-piece. The rods F, G, and the press button H, are held back normally by a spring similar to that employed with the contact pin D. When the firing-pin H is pressed inwards, it pushes the rod G

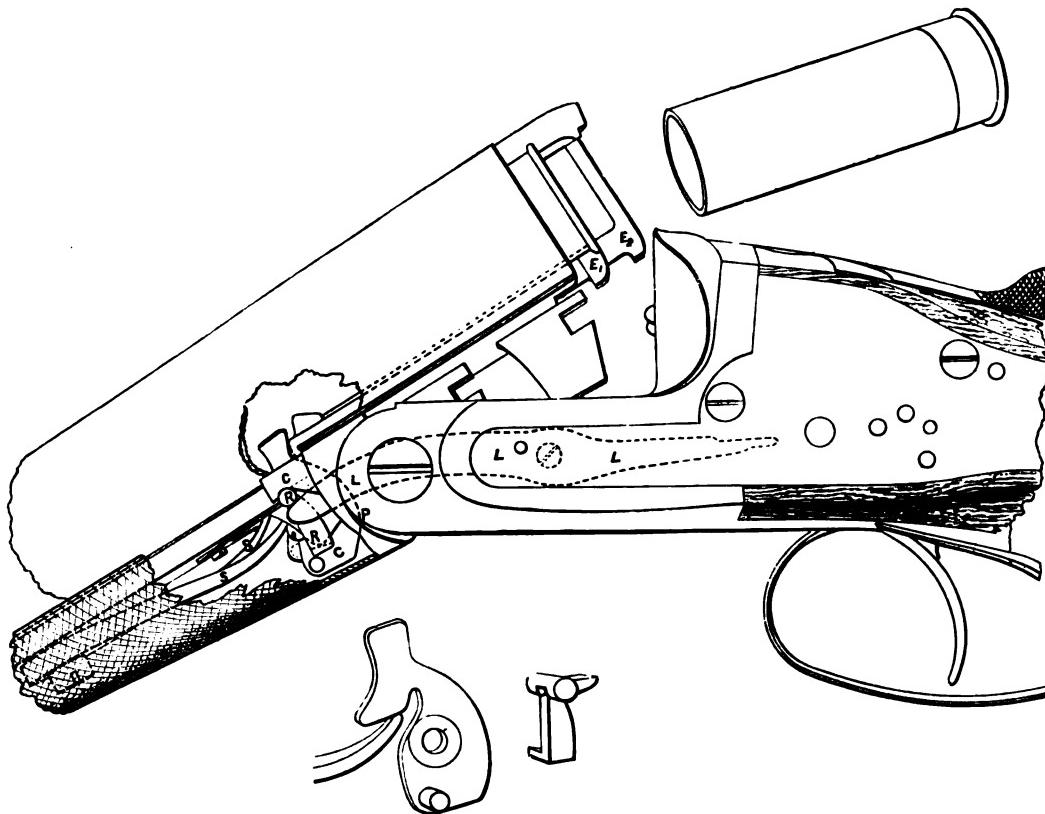
before it. The latter, acting on an incline on the rod F, moves the rod endwise; the contact pin D is pressed forward, and its front end comes into collision with the primer in the base of the cartridge. An electric current then passes from one pole of a small battery K through the stem of the firing pin H, the rods F and G, and the contact pin D, to the central metallic stem of the fuse, thence to the outer metallic casing of the cartridge, the gun itself, and the other pole of the battery. The contact pin D, the rods F and G in the breech-block, and the stem of the firing pin H, are all held in guides of vulcanite or other insulating material, to prevent electrical contact with the gun and its breech-block.

By thus arranging the firing mechanism, so that no contact is made with the end of the central stem of the fuse until an electrical current is to be passed through it, and the fuse fired, the inventor claims that greater safety is obtained than when the only contact necessary to fire the fuse is that of the press-button or trigger mechanism usually employed.



INVENTIONS APPLICABLE TO THE SERVICES.

JOHN RIGBY & CO.'S IMPROVED EJECTOR HAMMERLESS RIFLE.



N these days, when weapons of precision are the study of military nations, it behoves us to pay the strictest attention to any invention or suggestion that may prove beneficial to the small-arms of our services. It is a well-known fact, not only in our own services, but in that of foreign countries, that the great desire of the young soldier or sailor, when in action, is to fire off his stock of ammunition as often and as quickly as he can. Provided he expends the amount of ammunition given to him, he thinks he has done his duty, and is fighting hard. The only thing that ever prevents this is the fact that he may not be able to do so in consequence of the incompetency of the weapon placed in his hands. The history of our late wars ought to have taught us a lesson, hence we welcome the improvement made by Messrs. John Rigby & Co., of 72, St. James's-street, S.W., and of Dublin, who have submitted to our notice a top-snap hammerless rifle,

fitted with their improved ejecting mechanism and intercepting safety bolt.

The adoption of top extensions has rendered almost necessary an alteration in the mechanism for extracting the cartridges. The extension of the top rib backwards, with its third grip or vertical bolt, while it adds greatly to the steadiness and durability of the action, prevents the cartridge head from being easily seized by the finger and thumb across its diameter. It follows that, unless the fired case is either pushed out much further than usual, or ejected altogether, a difficulty arises in quick reloading. Messrs. Rigby's improved extractor remedies this inconvenience. Motion is imparted to it by a lever hung in the fore-end, and so adjusted that it sets in motion the extractor, with a slow but powerful movement at first, which is accelerated as the barrels fall. This is sufficient, without any spring, partially to eject the fired case, when it is easily removed. The arrangement is equally suited to guns with and without hammers. Rigby's improved ejecting mechanism is used

chiefly in combination with their top-snap hammerless gun, having their well-known vertical top connection. It differs in many respects from any hitherto described. It is quite independent of the lock, and, even if deranged, could not prevent or interrupt the ordinary working of the gun, which would still extract, although it might not eject. The extractor is in two parts, jointed together, but working independently, as in Needham's patent, but the method of putting them in motion is totally different. It is simpler, and the barrels do not require to be dropped further than is necessary to clear the top of the action. The return movement is smooth and easy. Only fired cases are ejected, no matter which barrel is first discharged.

The lever LL, which lies under the mainspring, cocks the lock on the fall of the barrels; CC, are the cams pivoted in the fore-end, which are set in motion by a projection on the body at (p). The upper ends in their turn force out the extractor to the first position, E. SS, are two springs attached to the fore-end, the ends of which rest on the cams, and, when the latter are free, jerk them on to the position E₂. RR is the rest, which

arrests the action of the cam, and prevents it ejecting unless the lock has been discharged. If the lock has been discharged, the end of the cocking lever, l, presses on the rest R, and holds it back, so that the ejecting spring is free to act, and the fired case is thrown out. It will be seen that the ejecting spring may be removed or neutralized in any way, without interfering with the action of the lock or the ordinary extraction of the cartridges.

Messrs. Rigby's gun is also fitted with an intercepting bolt of their invention. It is fitted on the trigger-plate, and is withdrawn by the act of pulling the trigger only. It interposes a block or rest under the mainspring, not, as is generally the case with intercepting bolts, under the tumbler. It is obviously more mechanical to intercept the mainspring which is the source of power, than the tumbler. A sudden check to the fall of the latter throws a severe strain on the swivel and its connections with the tumbler and the mainspring. This is the chief cause of the fracture of swivels and mainsprings in hammerless guns.



"THE HAVERSACK."



N the question of "Rifle Regiments," the following communication has been received by the Editor:—As compiler of the articles on the Rifle Regiments, which appeared in your issues of November and December, I write to express my satisfaction that the question as to which is the senior British rifle corps should have been taken up by so keen a critic as your correspondent "Celer et Audax." For I confess that I should have felt some disappointment had the judgment of the public been permitted to go by default on this question.

They are now in possession not only of the facts of the case, but also, thanks to "Celer et Audax," all the alleged weak points in my articles have been thoroughly criticized.

In doing so, it will be noted that he altogether evades the main point at issue, and ignores the existence of the various Acts of Parliament already quoted, which conclusively prove that the 60th Royal American Regiment was something very different and altogether distinct from an ordinary British regiment of the Line. As to what he terms my "inventions regarding the origin" of the Royal Americans, I can only remind my readers that the Acts of Parliament which called the various battalions into existence, and so stringently defined their peculiar disabilities as a colonial corps, were the "inventions" of successive British Parliaments between 1756 and 1818; and I must modestly, yet firmly, disclaim having had anything to do with the framing of them. I have fully detailed in my article of December the removal of these disabilities, and the date at which the regiment became *bonâ fide* a British rifle corps; and anyone wishing to satisfy himself further on this point can do so by perusing the published Records of the 60th Foot.

"Celer et Audax" styles the connection between the "Experimental Corps of Riflemen" and the present Rifle Brigade as "far-fetched." The Records and Army Lists prove conclusively that the officers who formed the first corps of British riflemen ever raised, viz. "An Experimental Corps of Riflemen," were the same as those who served a few months later in "The Rifle Corps," and afterwards in the "95th." Their commissions were dated 25th August 1800 (the day when British riflemen were for the first time used in action at Ferrol), upon its being decided permanently to embody the corps as

a regiment. Up to that time the officers were only provisionally attached to the corps, as it was admittedly an experiment.

Not only the officers but the N.C.O.'s and men of the "Experimental Corps" also served in the Rifle Corps; this is shown by the orders issued to Colonel Manningham, when it was decided to permanently embody the regiment, when directions were given "to complete the Rifle Corps by volunteers from the Fencible Regiments of Infantry serving in Ireland." This clearly implies that a *nucleus*, viz. the "Experimental Corps," existed, which only needed completion. To deny the connection between the Experimental Corps of Riflemen and the Rifle Brigade would be only equalled were "Celer et Audax" to deny that the present King's Royal Rifle Corps were, some sixty-five years ago, termed the 60th Royal American Regiment, or that the present Scottish Rifles were but lately known as the 26th and 90th Regiments.

It is a mere quibble to say that the 60th were *never* called the "Royal American Colonials." That they were the Royal American Regiment, raised for colonial service only, is indisputable, and hence the expression "Americans" and "Colonials," although certainly not official nomenclature, was at times used, and was certainly more applicable to them than the term "Rifles," which Rigaud over and over again applies to the 5th Battalion 60th Royal American Regiment.

The military work published in the early part of this century to which I alluded in my November article, and to which "Celer et Audax" takes exceptions, is entitled *The Military Costumes of Europe*, and consists of two volumes, dated 1813. From its general contents, it bears the stamp of having been written by a person well versed in military matters. After minutely describing the uniform and equipment of the riflemen of the day, it goes on to say, "The 95th Regiment is the only corps of British riflemen."

Now, in this very year (1813), the 5th battalion 60th Royal Americans was actually serving, and had for some years been serving, in the Peninsula,* and yet here we have a standard work definitely stating that the 95th was the *only* corps of British riflemen! Could any words of mine define more clearly the *status* of the foreigners composing the 5th battalion?

"Celer et Audax" has made a ludicrous blunder in imagining that the talented and highly scientific author

* The probable reasons for this have been alluded to on p. 398.

of *Seloppetaria, or Considerations on the Nature and Use of Rifled-barrel Guns*, because he chose to adopt the *non de plume* of "A Corporal of Riflemen," was, "from his position, not particularly well-informed"! I can assure my readers that the book in question is an exhaustive treatise on rifled arms, and is evidently the work of some expert in the science of the flight of projectiles, &c.

As to Atkinson's drawing called "Riflemen," being an affirmative witness for "Celer et Audax," I hail with satisfaction its introduction into the controversy, since it is unquestionable that the *only* British rifle regiment which Atkinson could possibly have seen in 1805 was the Rifle Corps or 95th. At that date, the 5th battalion of the Royal Americans was serving, and had been serving for over six years, in the place in which it was especially raised to serve, namely, America, and, what is more, it had *never* served in England (for its formation at Cowes in the early months of 1798, from the disbanded Jäger battalions, cannot be termed "service").

It is preposterous to suppose that Atkinson's pictures could have been meant to represent any except the 95th Rifle Regiment. The contention that the coloured copies were "coloured like the Rifle Brigade to suit customers," and that the uncoloured ones *look* as if they might be meant to represent the 60th Royal American Regiment, is simply childish. As to "Corps of Riflemen" being in the plural number, the fact that in 1805 there were two battalions of the 95th serving, one at Bergen and one at home, sufficiently accounts for such an expression.

It would be wearisome to the general reader to follow "Celer et Audax" in his somewhat involved "words as to dress"; I will only say that I am willing to give him several of his minor points, even to the "tinge of claret" in his dark-blue riflemen's breeches, and to his "tail," and yet believe I can prove to the unbiassed mind that his claim is an untenable one. At the same time I will carefully look into the points he mentions, and make any necessary alterations, since my only object is that the article should be as complete and accurate a record as possible.

He asks, "Why is it stated that the 60th were not granted the red sash and pelisse until December 25th, 1826?" The answer is plain and to the point: "Because the *Regimental Chronicle* of the 60th* Rifles states explicitly that these articles were *sanctioned* in the Dress Regulations of that date." If this is incorrect, "Celer et Audax" had better get it altered forthwith; but I have reasons for believing that there is no mistake.

I trust that in entering into these minor points raised by "Celer et Audax," I have not diverted the reader's attention from the main point at issue. The "Experimental Corps of Riflemen" having proved to be a successful experiment, was formally embodied as

* *A Regimental Chronicle*, Wallace, p. 53.

"THE Rifle Corps." Had any other rifle corps been in existence in the British army, would it have been thus named? Who were "The Rifles" of the British army throughout the long and bloody struggle in the Peninsula and at Waterloo? The battalions of the 95th Regiment of Riflemen, a homogeneous corps of British soldiers, all dressed in green, and armed with rifles, whose deeds acquired an European fame; or the single 5th Battalion of the 60th Royal American Regiment, dressed and armed, it is true, in a somewhat similar fashion, but composed of foreigners, and an integral part of a regiment dressed in red, and armed with smooth-bores, every battalion of which was raised under special Acts of Parliament for service in America only, as a Colonial corps? Is it a fact that, as late as 1824, the 60th Royal American Regiment was not permitted by the law of the land to serve in the United Kingdom until exceptional measures had been taken to "remodel" it, and that it was not until 1825 that it was made a "British rifle corps" in the true sense of the term, after nearly seventy years of Colonial service, and a quarter of a century after the formation of the original corps of British riflemen, the Rifle Brigade? It is on these points that the verdict of the army and of the public in general will be given.

"Celer et Audax," finding his arguments fail, raises the cry of *cui bono?* Why raise such a discussion? The answer is, as has been already said, that the articles were intended to be, and are, a reply to the statements which have been constantly made by men like "Celer et Audax" with perverted notions of *esprit de corps*, and which have of late years been recorded in books like Rigaud's with such persistence. Since these statements have apparently never been seriously contradicted, an extraordinary amount of misconception has arisen on the matter, which I have done my best to dissipate once and for all.

I have all along disclaimed any idea of stirring up strife. If strife there were, it would surely be caused by those who have made an assertion, the fallacy of which it has been my task to prove. On one point, at least, I cordially agree with "Celer et Audax," that is, when he says that the two regiments know and honour each other too well to be affected by such an abstract question concerning, as I termed it, "a mere matter of ancient history."

Finally, I have no desire to "mislead" anybody. Those who care to take the trouble, can verify the general accuracy of my statement of the case by referring to the *Regimental Records*, the Public Record Office, Chancery Lane, and the library of the British Museum.

ON Monday (February 13th) an interesting ceremony took place at the Britannia Yard, Millwall, when the

first ferry steamer belonging to the Greenwich Ferry Company was successfully launched, after being duly christened, or rather named, the *The Countess of Lathom* by Her Ladyship the Countess of Delaware. A large number of shareholders in the Company, as also invited guests, witnessed the launch, and afterwards sat down to a magnificent banquet in the large room used on this and similar occasions at the Ship Hotel, Greenwich.

The Chairman of the Company, Admiral Sir Edward Inglefield, K.C.B., presided, and gave the assemblage full particulars as to the origin and progress of the undertaking. It seems that as far back as the year 1626 a charter was granted for a ferry for horse and vehicular traffic between the Isle of Dogs and Greenwich, and in 1812 an Act was passed (52 George III., cap. 148) establishing and authorizing a statutory ferry, with the compulsory acquisition of lands for the purpose of making roads, and in 1814 an Act was passed empowering the levying of tolls upon passengers. Subsequently to this, land for the roads was acquired, and the ferry restarted and worked for a considerable time, but was eventually stopped when steam navigation became general.

Between 1872 and 1885 the vendor of these rights had much difficulty in acquiring them as a whole, but in the latter year the matter was carried to the House of Lords in Session, when the entire rights were so firmly established as to enable the owners to take steps for re-opening the vehicular ferry across the Thames. The present Company was formed towards the end of March 1887, and the whole of the capital has been fully subscribed.

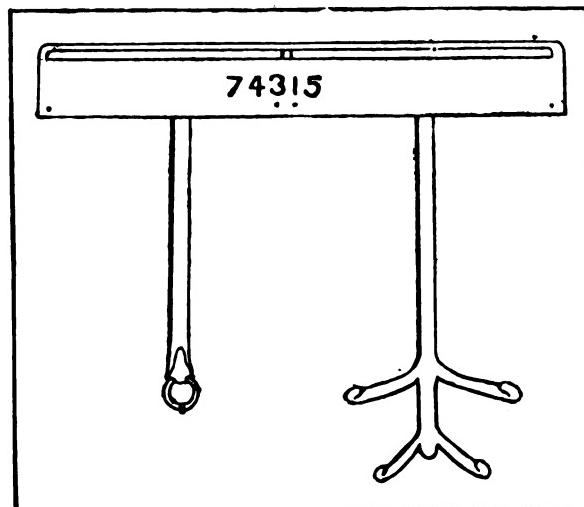
Considerable engineering difficulties have arisen in the sinking of the cylinder for the balance weights; but these have now been overcome, and there is no reason to doubt that the whole of the works will shortly be completed.

There are several novel features in the design of the steamers and piers for the ferry, it being arranged that the vehicular traffic will be taken on and off the steamers on the level at all states of the tide, rails being laid down for the reception of railway trucks, and the steamers being constructed to carry fourteen vehicles each trip. The shareholders evidently gave their Chairman great credit for the able and energetic manner in which he had conducted their affairs; and much praise was due to another director, Colonel Charles Steel (late 17th Lancers), for his clever arrangement of the day's proceedings at a very short notice.

LIFE ASSURANCE has been a disadvantageous investment for officers, owing to the heavy extra premiums to which they are liable for foreign and active service. When compared with the business in its first principles

as applied to civilians, the odds have been so much against officers that naval and military men have, without doubt, rejected to a great extent this form of family provision. To meet this situation, the Legal and General Life Assurance Society, of 10, Fleet Street, have undertaken to insure officers' lives at the ordinary tabular rates, and the additional risk, which they have estimated at a lower figure than has been ventured upon by any other office, is adjusted by means of the Society's large bonuses. A simple contract is given free, from the commencement, of all conditions and extra premiums.

Diagram of Metcalf and Co.'s New Registered Buckle to secure Medals and Orders in position when worn, so as to prevent them from knocking together and damaging each other.



We are informed and can easily understand that this simple contrivance [is] of great service to all officers who value their medals and orders. The use of it will recommend itself especially to the cavalry branch of the service, as by its means the medals remain perfectly motionless. The idea of the split bars as represented above was, we believe, suggested by Captain Pyne, Royal Marines, and Messrs. Metcalf have taken out a provisional patent for securing medals and orders after this fashion, as it allows of changing the ribbons at pleasure. We are told that the invention has been extensively adopted, and that when introduced into a regiment, officers of all grades have been to 19, Cockspur Street, where the medal bar may be obtained. Our own opinion is, that it supplies a want much felt, especially as the cost is so trifling; and it appears strange that no one has introduced the plan before. We hope Messrs. Metcalf & Co. will reap profit out of so valuable an invention.

ANALYTICAL Chemistry has, during the last quarter of a century, thrown much light upon adulterations, especially in reference to articles of food; but it is

only within the last decennium that the analytical chemist has devoted himself to the consideration of nature's hygiene, in other words, how to produce the same refreshing and purifying air in our homes as is found in the pine forests of Norway and the eucalyptus forests of the Colonies. The credit of this remarkable hygienic discovery is unquestionably due to the scientific chemical researches of Mr. C. T. Kingzett, late Vice-President of the Society of Public Analysts, the author of that important work, *Nature's Hygiene*. Mr. Kingzett was the first to discover that the healthy atmosphere of a pine wood or a eucalyptus forest is due to the presence of peroxide of oxygen (a most important antiseptic) and camphoraceous substances produced by the atmospheric oxidation of the essential oils secreted by those trees, and that these valuable natural purifiers can be produced from common turpentine. A method of preparation was then invented by Mr. Kingzett who brought their healthful principles within the reach of the public, and gave to these products the name of SANITAS. The author adds: "The inventions are the result of a close study of the chemistry of nature, and the application of her method to the artificial production of materials capable of imitating her hygienic work with the greatest exactitude." The Sanitas manufactures are susceptible of a variety of applications to the purposes of everyday life both in England and the Tropics. Mr. Kingzett has published, in addition to *Nature's Hygiene*, two excellent treatises

on the "General and Domestic, Medical and Military History and Uses of Sanitas in England, on Board Ship, in India and the Tropics generally." These works should prove valuable to naval and military surgeons, affording as they do all the hygienic information necessary to combat an infectious disease like small-pox, to render hospitals and barracks sweet and wholesome, and to employ the Sanitas preparations generally. These neither possess the dangerous and poisonous qualities of carbolic acid, nor the unpleasant—not to say sickening—odour peculiar to chloride of lime, and the many preparations of creosote.

To be able to procure a cup of hot tea or coffee without much, if any, trouble, is a *desideratum*, and by no class is it more appreciated than by soldiers in camp and on the line of march. An invention, called the "Combination" Heating Flask (Eaton's patent), which does not take up more space than an ordinary flask, and can be conveniently carried in the pocket, seems to supply a long-felt want, and will, when known, be regarded by the regular and auxiliary forces as an essential camp requisite. These flasks will be as extensively used by soldiers as they now are by Her Majesty's Police Force. By their use, any beverage can be warmed in a few minutes. These flasks are strong and well-made, have no complicated or loose parts to break or lose, and are inexpensive.

SUMMARY OF ARTICLES IN FOREIGN SERVICE MAGAZINES.

REVUE DU CERCLE MILITAIRE—ARMÉES DE TERRE ET DE MER. (Paris: 37, Rue de la Bellechasse.) January 22nd and 29th, and February 5th and 12th, 1888.

The Supply of Ammunition on the Battlefield—The Duel in the German Army—The German Etappen Service in 1870—The Defensive Organization of States—Fortification and the New Artillery—The German Landsturm Bill—The Austro-Russian Frontier—Military Schools in Italy.

REVUE DE CAVALERIE. (Paris: Librairie Militaire Berger Levrault et Cie., 5, Rue des Beaux Arts.) January 1888.

Independent Cavalry (*continued*)—The Three Colberts, by General Thoumas (*continued*)—French Riding: its Schools and its Masters (*continued*)—The Forage of the Troop-horse in the German Army.

JOURNAL DE LA MARINE. Le Yacht. (Paris: 50, Rue Saint Lazare.) January 21st and 28th, February 4th and 11th, 1888.

The Use of Oil at Sea—The Cruiser *Tage*—The (French) Naval Reserve—Improvements in Life-boats.

REVUE MARITIME ET COLONIALE. (Paris: Librairie Militaire de L. Baudoin et Cie., 30, Rue et Passage Dauphine.) January 1888.

Notes on Madagascar (*concluded*)—The Brennan Torpedo—Tonquin in 1888—Travels in Senegambia, by Dr. Bayol, Lieutenant-Governor of Senegal (*continued*).

REVUE D'ARTILLERIE. (Paris: Berger Levrault et Cie., 5, Rue des Beaux Arts.) January 1888.

Trials of Small-Arms in Sweden 1884–86 (*concluded*)—Notes on the Training of Horses for the Artillery—The Determination of the Angle of Maximum Range—The Interior Strains of Cast-Iron and Steel.

REVUE DU GENIE MILITAIRE. (Paris: Berger Levrault et Cie., 5, Rue des Beaux Arts.) November and December 1887.

The Lighting of Workshops—Apparatus for the Supply of Filtered Water to Troops—The Camp Cooking-Utensil Competition (*concluded*)—The (French) Naval Engineers in Tonkin (*continued*)—The Promotion of

Officers in the French Army (*concluded*)—Gruson's Armour-plating—The Fortifications of the Meuse in Belgium.

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTERN. (Cassel : Verlag von Theodor Fischer.) February 1888.

The Military and Political Aspect of the Fight for Constantinople—A New Field Cooking Apparatus—The Krupp Guns of 1886—Napoleon as a General—The Cruisers of the World (*continued*)—Mounted Infantry in Combination with Cavalry Divisions in France—The Military System of Bokhara—Cracow or Premysl?—Service in the Russian Army in the Summer and Autumn of 1887.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) February 1888.

The Siege of Mainz in 1793 (*continued*)—France's Second Line of Defence—The Diary of a Volunteer Jäger 1813-1815—The Development of German Military Music—Infantry Tactics: Dream and Reality—The Training of Reserve and Landwehr Officers.

RIVISTA DI ARTIGLIERIA E GENIO. (Roma : Tipografia e Litografia del Comitato d'Artiglieria e Genio.) December 1887.

The Mines of Peloritana (Sicily) and Baveno (Lago Maggiore)—The Relations between the Charge and the Initial Velocity—The Maxim Machine Gun—Early Italian Aeronauts—The Italian Field Artillery (*continued*).

RIVISTA MILITARE ITALIANA. (Roma : Voghera Carlo, Via Nazionale.) January 1888.

Night Marching and Fighting—Small-bore Rifles—

The Distinctive Features of Modern Warfare—A New Commissariat Wagon—The Use of Pigeons for Military Purposes—Maxims and Opinions of General Skobelev, extracted from his Orders of the Day—The New German Army Bill.

RIVISTA MARITTIMA. (Roma : Tipografia del Senato.) January 1888.

Italian Sailors in the Spanish Service—Optical Telegraphy—The Quick Breech-loading Gun (from the ILLUSTRATED NAVAL AND MILITARY MAGAZINE).

ILLUSTRAZIONE MILITARE ITALIANA. (Milano : Via Santa Margherita, 9.) 15th January, and 1st February 1888.

Military Optical Telegraphy—The Russian Grenadiers—A New Method of Carrying the Sword—The (Italian) Engineers at Massowah—The Nordenfelt Submarine Boat—The Russian Army—Correspondence from Massowah.

JOURNAL OF THE MILITARY SERVICE INSTITUTION. (New York : Public Service Publishing Company.)

The Artillery and the Ordnance—Modern Fortifications and Sieges—Military Training in Colleges—Field Artillery Carriage Construction—Our Army and Navy.

THE AUSTRALASIAN NAVAL AND MILITARY GAZETTE. (Melbourne : 180, Collins Street, West.) November 1887.

The Defence of Adelaide—The South Australian Defence Commission—The Australian Naval Forces Bill.

AT THE PLAY.

At the OLYMPIC the successful reproduction of "Held by the Enemy" has given place to that excellent piece, the "Ticket-of-Leave Man," one of the most spirited of Tom Taylor's many contributions to the stage. The "mounting" is not what we expect in these days of finish, completeness and appropriate details, and is, indeed, by no means, equal to the way in which it was put upon the stage in old days, when a less exacting standard prevailed; but the cast is a fair all-round one, and has two or three first-rate performances in it. For the first few nights Mr. Henry Neville appeared in his original part of Bob Brierly, which he filled with much spirit, notwithstanding the twenty-five years that have passed since he first tried the character, and Mrs. Stephens also resumed her capital representation of Mrs. Willoughby which she is still continuing. The temptation to add to and occasionally exaggerate a part of this kind must be specially great, and Mrs. Stephens has not resisted it altogether, although her offences are not flagrant, except in the scene in May Edwards' room,

where the interpolated "business" becomes positively wearisome as well as entirely inartistic. This is specially the case with Sam Willoughby, whose tricks in Mr. Gibson's presence are outrageous; Miss Helen Leyton appears in this character, and is good in the main, though not sufficiently so to make us forget Miss Nelly Farren. She is, however, free from the vanity that causes so many actresses in "breeches" parts to do their best to retain the graces of a "good figure" in their male garments, and would make a fair boy if her hands did not betray her, which, indeed, are about as unlike a schoolboy's "paws" as can well be imagined. Mr. Julian Cross' Melter Moss, though starting with an uncertain touch, worked up well towards the end, but could not obliterate the memory of Mr. Vincent's repulsive but striking performance; the limp, for instance, which was a special point in the latter case, was made altogether ineffective by Mr. Cross. May Edwards is not much of a part, but Miss Florence West did her best with it; Mr. Yates and Miss Bealby, however, only succeeded in

making more evident than ever how entirely unnecessary are the characters of Green Jones and his Emily, which, we presume, Mr. Tom Taylor had to supply to order for the purpose of providing Mr. Soutar with a part. The chief interest of the reproduction, however, centred in the rendering of the characters of Hawkshaw and Jem Dalton by Mr. Yorke Stephens and Mr. E. S. Willard. The former was original and effective, but the latter was undoubtedly the success of the evening. Mr. Willard's acting of the scene in which The Tiger appears in his city get-up was as admirable as the get-up itself, and equally good, in its way, was the brutal frankness of the man in the scene at the Bricklayer's Arms. It was not Mr. Calhaem's fault, perhaps, that the remembrance of his admirable performance of the old Negro in "Held by the Enemy" would obtrude itself in the midst of his careful rendering of Mr. Gibson, and refuse to be banished from the mind. Mr. Boleyn has lately replaced Mr. Henry Neville.

At the COMEDY Mr. Jerome K. Jerome, the author of "Barbara," has produced another little one-act piece called "Sunset," founded on Lord Tennyson's "Sisters," which is a pretty little play and well acted, especially by Miss Graham and Miss Cudmore as the two sisters.

At the OPERA COMIQUE Mrs. Bernard Beere has followed up "As in a Looking-Glass" with another step in the wrong direction. That play had much that was morbid as well as much that was inartistic and undramatic in it; its successor, "Ariane," has little to recommend it except the admirable acting of Mrs. Bernard Beere and Mons Marius, the latter in an eminently disagreeable part which he renders possible and tolerable. Mrs. Campbell Praed, the authoress, has chosen an unpleasant subject, and has done nothing to redeem it. Mr. Henry Neville and Mr. Leonard Boyne seem quite at sea in such a play.

At the SAVOY, before "Pinafore," there is now represented a queer mixture called "Mrs. Jarramie's Genie," which is a sort of "Aladdin's Wonderful Lamp" modernized. It has some pretty music, and is fairly acted.

New first pieces seem all the rage, and TOOLE'S has one also called "A Red Rag," the motive of which is so slight and inadequate as to be quite unworthy of its author, Mr. Justin Macarthy.

At the PRINCESS' a version of the Australian Shilling-Dreadful, "The Mystery of a Handsome Cab," has been produced, and is an effective piece of work of its kind.

At the CRITERION Mr. Charles Wyndham's return has been postponed, but he is to reappear in "David Garrick" as we go to press.

Pieces that have been running for some time.

ADELPHI.—"The Bells of Haslemere," melodrama, Mr. W. Terriss, Mr. C. Cartright, Mr. Garden, Miss Millward, Miss Clara Jecks, &c.; and a farce.

AVENUE.—"The Old Guard," comic opera, Mr. Arthur Roberts, Mr. John Dallas, Mr. Alec. Marsh, Miss Edgecumbe, Miss Fanny Wentworth, Mdlle. Henriette Polak, &c.; and "A Cup of Tea."

COMEDY.—"The Arabian Nights," three-act farce, Mr. C. Hawtrey, Mr. W. S. Penley, Miss Lottie Venne, Miss Cissy Grahame, Miss Cudmore, &c.; and "Sunset," Mr. W. Draycott, Miss Caroline Elton, &c.

DRURY LANE.—"Puss in Boots," pantomime, Mr. Harry Nichols, Mr. Herbert Campbell, Mr. Charles Lauri, Mr. Harry Payne, Miss Wadman, Miss Letty Lind, &c.

GAIETY.—"Frankenstein," Mr. Fred Leslie, Mr. George Stone, Mr. E. J. Lonn, Miss Nelly Farren, Miss Marion Hood, Miss Florence Dysart, &c.; and "Lot 49."

GERMAN REED'S ENTERTAINMENT.—"Tally-ho," musical comedy, Mr. Alfred German Reed, Mr. E. Laris, Mr. Templer Saxe, Miss Fanny Holland, Miss K. Tully; and "Our Servants' Ball," Mr. Corney Grain.

GLOBE.—"The Golden Ladder," melodrama, Mr. Wilson Barrett, Mr. George Barrett, Miss Eastlake, Mrs. Henry Leigh, &c.; and "The Colour-Sergeant."

HAYMARKET.—"Partners," comedy, Mr. H. Beerbohm Tree, Mr. Brookfield, Mr. Kemble, Mr. Cautley, Mr. Allan, Miss Marion Terry, Miss Le Thiere, Miss Achurch, &c.; and "Cupid's Messenger."

LYCEUM.—"The Winter's Tale," Mr. J. Forbes Robertson, Mr. F. H. Macklin, Mr. Charles Collette, Miss Mary Anderson, Mrs. J. Billington, &c.; and "Vandyke Brown."

PRINCE OF WALES'.—"Dorothy," comic opera, Mr. Ben Davies, Mr. Furneaux Cook, Mr. Arthur Williams, Mr. Hayden Coffin, Miss M. Tempest, Miss Florence Perry, Miss H. Coveney, Miss Nellie Gayton, &c.; and "Jubilation."

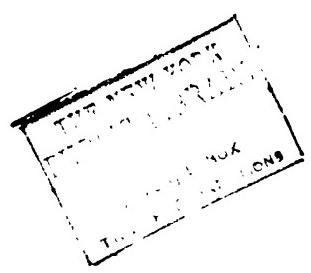
ROYALTY.—French Plays. Under the direction of Mr. M. L. Mayer.

SAVOY.—"H.M.S. 'Pinafore,'" comic opera, Mr. G. Grossmith, Mr. R. Barrington, Mr. J. G. Robertson, Mr. R. Temple, Miss G. Ulmar, Miss Jessie Bond, Miss R. Brandram; and "Mrs. Jarramie's Genie."

ST. JAMES'S.—"Scrap of Paper," comedy, Mr. Kendal, Mr. Hare, Mr. Herbert Waring, Mrs. Kendal, Mrs. Beerbohm Tree, Mrs. Gaston Murray, Miss Blanche Horlock, &c.; and "Old Cronies," Mr. Macintosh.

TOOLE'S.—"A Red Rag," comedietta, "Dot," comedy, Mr. J. L. Toole, Mr. J. Billington, Mr. H. Westland, Miss Kate Phillips, Miss Eliza Johnstone, Miss Marie Linden, &c., and "Waiting Consent."

VAUDEVILLE.—"Fascination," comedy, Mr. F. Thorne, Mr. Royce Carleton, Mr. H. B. Conway, Miss Harriett Jay, Mrs. Canninge, &c.





CLEMENT-SMITH & CO LTD London & New York 1888

**THE EMPEROR WILLIAM I.
OF GERMANY.**

THE
ILLUSTRATED
Naval and Military Magazine.

No. 46:

APRIL 2ND, 1888.

VOL. VIII.

THE MILITARY CAREER OF THE EMPEROR WILLIAM
THE GREAT.

BY SIR RANDAL H. ROBERTS, BART., LATE SPECIAL MILITARY CORRESPONDENT, "DAILY TELEGRAPH," 1870-71.



HE oldest, most experienced and illustrious of soldiers has passed away from amongst us. With the political and social career of His late Imperial Majesty it is not my province to deal in these pages, except where that United German Empire, of which he was the head, so gravely, from a military point of view, influenced the destinies of Europe. It is needless for me to point out that the crisis of 1870-71 at once placed Germany in the position of a mighty factor ruling the fate of modern Europe for peace or war; and that His Imperial Majesty was the head and front of this dictatorship will scarcely be denied by any historian of the present day. Let it be my task to endeavour to place before the reader an epitome of the military career of this great and good soldier, whose name will stand in as prominent a position in the pages of history as does that of the Great Napoleon.

It was after the memorable flight of the Queen and royal family from Stettin to Memel, on January 3, 1807, that the young Prince was entitled to his commission; but it was in the year 1803 that, according to the custom of the house of Hohenzollern, he had been first admitted into the army as a private soldier, being then seven years of age. When, however, the King of Prussia, who was at Königsberg, heard of the advance of the French, he immediately gave his son an ensigncy, on January 1st, 1807. At ten years of age the Prince assumed the responsibilities of his position with earnestness and gravity. What to others was playing at soldiers was to him business of the most serious nature. Duty, service, labour, and self-denial were the watchwords which now formed the pivot on which his life revolved. His young mind had already grasped

the fact that the sad events of 1806, commencing with the battles of Eylau, Heilsberg, Freidland, Jena, and Auerstadt, up to the peace of Tilsit, demanded a fresh military organization, and that what suited the times of Frederick the Great was no longer practical. This reorganization was brought about in a curious manner through Superintendent Borowski, Court Chaplain to the King. This great man said to the King, in the hearing of the Prince: "The feet of your old army were made of clay, and so they were of no avail against the enemy; it was broken and fell, and the land fell also with it. What is required is, that the people should constitute also the armed force of the land. He who has his own home and hearth to defend in the fatherland will always best know how to manfully and successfully repulse the invader. Make your people your army, and fear not." It was this advice, faithfully carried out by the young soldier whilst Prince, Regent, and King that has proved so successful to the Prussian arms; and from that date, by degrees, the whole nation capable of carrying arms became soldiers. On the 25th of December 1807, Prince William was promoted and became second lieutenant. At that time he was in delicate health, and suffered from weakness and lassitude, but before he attained the age of twenty, this weakness passed away. In 1808 the Queen wrote to her father, and in her letter she says: "Our son William is growing, if all signs do not deceive me, as single-minded, upright, and sensible as his father."

In the year 1809, the great and good Queen decided to give additional impulse to the education of her children, and Professor Rennau was appointed as tutor; the instruction in technical military branches being left in the hands of Major-General Diericke, Major Pirch, and Captain von Reiche. It was from

these officers that the Prince obtained his first insight into military tactics. The next year the young Prince suffered a fearful blow by the loss of his beloved mother, who died on the 19th of July 1810. Prince William never forgot his mother's last words, viz. to bring back from France those trophies which had been carried away by Napoleon. One of these was a Quadriga, which stood upon the Potsdam gate in Berlin, and it may be noted that in 1871, after the fall of Paris, this was brought back and replaced in its old position.

The next important event in the military career of the Prince was his promotion on the 15th of June 1813, whilst serving with the Regiment of Guards at Breslau, to be first lieutenant, which was on this wise. In consequence of his weak state of health, the King refused to allow his son to join the troops in the field. At the battle of Grossgörschen, the Prince's regiment lost 18 officers, and 842 rank and file. The Prince felt very much this command of his father's, and the latter, on the 15th of June, sent for his son and asked him what rank he held; upon being told second lieutenant, he replied, "I promote you to be first lieutenant." Upon which the Prince answered: "I thank your Majesty, from my heart, but I must decline. My comrades, who have borne the toil of battle, are more deserving, whilst I remained at home." "In staying at home, Sir, you obeyed my commands; your obedience, under the circumstances, entitles you to promotion." After the battle of Leipsic, on the 30th of October 1812, the King informed his son that he should take him to the field, and on the 27th February 1814 Prince William was for the first time under fire. During this engagement, the Russian regiment of Kaluga was hotly engaged, and suffering severe loss. The King desired the Prince to ride and ascertain the name of the regiment, which he at once did, advancing through a perfect hail of bullets, and returning seemingly unconscious of having done anything. For this the Emperor of Russia gave him the fourth class of the Order of St. George, and the King "The Iron Cross."

Prince William entered Paris with the allied sovereigns, March 11th, 1814, but he was not present at Ligny or Waterloo, being with his regiment on the Rhine. He shared, however, the second triumphal entry into Paris, July 13, 1815. After the battle of Waterloo, the Prince's advancement was rapid, until on March 30, 1817, he was made colonel and commander of the 1st Regiment of Foot Guards. In the year 1819, he was elected a member of the Ministry of War, mainly on account of a report he had made to his father of the military organization of Russia, which he had studied during a visit to St. Petersburg. On the 1st of June 1829, he married the present dowager empress. On the 1st of June 1840, the Prince commanded the troops at the laying of the foundation-stone of the

monument erected to Frederick the Great, the state of his father's health not permitting his leaving the palace. On the occasion of taking the title of Prince of Prussia, he was raised to the rank of General of Infantry, and appointed Governor-General of Pomerania. In the year 1848, owing to his desire to reorganize the army, he was compelled by the King, his brother, to leave Prussia, and he came over to London. During his stay here, the battle of Olmütz, and the bloody field of Langensalza were fought. On his return from England, he was appointed commander-in-chief of the Prussian pacification army, and finally, in October 1849, he was made military governor of the Rhenish provinces, with his head-quarters at Coblenz. About 1856 the Prince proposed a thorough reorganization of



PRINCE WILHELM, 9 YEARS OLD.

the army, as he found that the cumbrous machinery employed by Generals Scharnhorst and Gneisenau did not work; but unfortunately the weakness of the King, his brother, prevented his carrying it out at once. In 1854, the title of Colonel-General of Infantry, with the rank of Field Marshal, was made for him, and he was made Governor of the Fortress of Mayence. It was here that he first made the acquaintance of Otto von Bismarck, ambassador to the diet of Frankfort, and from that moment commenced a friendship which ceased only with death. On the 1st of January 1857, the Prince celebrated his army jubilee, viz. the fiftieth year from the date of his first commission, upon which occasion the army gave him a silver shield, and the veterans a silver Pickelhaube. On the 28th October 1858 he became

Regent, and on the 2nd January 1861 he ascended the throne of Prussia.

I must now pass over the political events which took place, the principal one being the appointment of Prince Bismarck as Chancellor, and come to the period of the Schleswig-Holstein War, commenced and ended in 1864; when, with an army reorganized by himself and Minister Roon, he compelled King Christian to sign the peace of Vienna, October 30, 1864, by which Schleswig-Holstein and Lauenburg were annexed to Austria and Prussia. Then followed the Austrian war, in which the King commanded in-chief, leaving Berlin on the 29th of June, accompanied by Prince Charles, Bismarck, Roon, and Moltke to join his army in Bohemia. The battle of Königgrätz was the result, and the crushing defeat of the Austrians. Then followed the peace of Prague, to be succeeded shortly afterwards by the phenomenal seven days' campaign in Bohemia, including the battles of Nachod, Ragnitz, Skalitz, Königshof, Hühnawassen, Podal, &c. It was these victories that ultimately gave King William the supreme command of the military forces of southern Germany, and so enabled him to make those dispositions which bore such fruit in 1870 and 1871.

The above events to which I have briefly alluded have been supplied to me from various sources, the authenticity of which is absolutely undeniable. For the following description of His Imperial Majesty's military career in the greatest of modern wars, 1870-71, I am entirely responsible, having had the good fortune, whilst representing the *Daily Telegraph* in 1870-71, to become acquainted with the events related. I shall pass over those four years which intervened between the end of the Austrian war and the commencement of the French, merely remarking that Louis Napoleon never ceased in his endeavours, ably assisted by Benedetti, to find some pretext upon which to found a *casus belli*. Patiently and with long-suffering endurance were these attempts combated, both by His Majesty and Prince Bismarck; and it was only when the last impudent request of the French Ambassador at Ems, in July 1870, when he requested an immediate audience of the King and was refused, tore the mask of hypocrisy from the face of France, that the King accepted the inevitable situation, and war was declared. Immediately the King returned to Berlin; the Crown Prince, Prince Bismarck, Von Roon, and Moltke came to Potsdam to escort him. His reception was simply indescribable. But the Soldier King had but one thought, his duty; promptly, and without a semblance of fatigue, he called his advisers together. The discussion was long, and held far into the night of his arrival. The council adjourned in the small hours, the mobilization of the army having been determined on. The disposition of

the troops was as follows:—The 1st Army, under General Steinmetz, head-quarters at Coblenz; the 2nd, under Prince Frederick Charles, head-quarters at Bingen; the 3rd, under the Crown Prince, head-quarters at Rastadt. On the 19th of July the French declaration of war arrived, and on the same day the King ordered the revival of the "Iron Cross." The mobilization of the three armies was entirely completed in eleven days. The defence of the coast was entrusted to General Vogel Von Falkenstein, who established his headquarters at Cologne: while His Majesty took the entire command of the three armies, and at the age of seventy-three, on the last day of July, he left Berlin, accompanied by Bismarck, Moltke, and Roon,



PRINCE REGENT.

arriving in Mayence, which place he made his headquarters, on the 2nd of August. He issued the following proclamation:—

"To THE ARMY!

"All Germany stands united in arms against a neighbouring State that has unexpectedly and without cause declared war against us. We have to defend our threatened fatherland, our honour, our hearths and homes. I assume this day the supreme command of the army, to enter trustfully upon a struggle such as our fathers have gloriously fought in times of old. The eyes of the whole fatherland are confidently fixed with mine upon you. The Lord God will be with us and our just cause.

"Mayence, this second day of August, 1870.

"WILLIAM."

It will be unnecessary for me to describe here the battles which took place, and which are a matter of history, viz. those of Weissenburg and Wörth, Saarbruck (a small affair, better known as the baptism of fire), Spiecheren and Courcelles, but I shall at once come to the time when the King went to the front and took the command in person. On the 14th of August he was at Pont à Mousson, hurrying to the front; on the 15th he was at Garze, and on the 16th he was present at the close of the stubborn fight of Mars la Tour, called by the French Vionville. After the battle of Mars la Tour, which checked Bazaine's advance on Chalons, about 9 in the evening I came upon his Majesty seated upon a board behind a wall in the

terrific shell-fire sought to drive back the 8th Corps, which held the village of Gravelotte. So determined was the attack, indeed, that the troops came back helter-skelter through the village. It was just then that, above the scream of shot and shell, the refrains of the National Anthem came upon our ears, and the Reserve, led by the King himself, advanced to the support of the 1st Army. His Majesty was in his field carriage, and passed close by to where I was lying wounded alongside of my dead horse. I was out of uniform, and I heard afterwards that he inquired respecting so strange a sight, and when told of the circumstances by General von Göben, in recognition of my humble services he sent me the Iron Cross (combatant's) with a letter. So that even in such a moment of supreme anxiety His Majesty did not forget an alien who, he considered, had done a service to Germany.

After the battle of Gravelotte, His Majesty ordered the formation of the 4th Army, the command of which he gave to Crown Prince Albert of Saxony. This corps, together with that of the Crown Prince, marched upon Paris, whilst His Majesty with the Guards, 4th, 5th, 11th, and 12th Corps, moved upon Sedan. The result of this battle, and the surrender of Napoleon, are too well known to require detailed description. Immediately after the surrender, His Majesty joined the Crown Prince before Paris, and took up his quarters in Versailles. Here, in the Mirror Hall, King William of Prussia was by acclamation elected Emperor of Germany, proudly placing the Imperial emblem upon his own head. The events that followed the fall of Paris and the treaty of Peace, are historical; suffice it to say that the same feelings which actuated the victor of Sadowa showed themselves after all the victories in France. "Do not tarnish the good name of our army," he said, "by the commission of one single act of violence." He distinctly refused, after the fall of Paris, to be quartered in the Tuilleries, or to billet his army in the conquered city.

The last time I had the honour and privilege of seeing His Imperial Majesty was when the troops made their triumphal entry into Berlin after the war; that occasion is, and ever will remain, green in my memory. In conclusion, I may add that the late Emperor was minutely intimate with every detail of the army under his command, from the intricacies of the field post and telegraph to the simpler details of the *proviant colonne*; that nothing escaped him on inspection, and that the welfare of the officers and men of his splendid army was his constant care and attention. A magnificent soldier, a glorious patriot, a wise ruler, a gentle and affectionate Christian father and husband, his name will be cherished not only in Germany, but in every country in the world, long after his great deeds have become shadows of the past.



KING OF PRUSSIA.

village of Rezonville. He had left Pont à Mousson that morning at 4 A.M., attended by Graf Waldersee, and standing close to him were Bismarck, Prince Frederick Charles, the Duke of Saxe Weimar, Minister Von Roon, and Baron Dönhoff. The groans of the wounded on the battle-field of Mars la Tour were to be heard distinctly every now and then, mixed with the shrill scream of a dying cavalry or artillery horse. The King apparently intended passing the night in his field-carriage, but an aide had discovered a small room in a cottage in Rezonville, unoccupied by wounded, where His Majesty passed the remainder of the night.

The battle of Gravelotte, never to be forgotten, was fought on the next day. Stubbornly had the French held their position opposite the 1st Army, occupying the commanding heights of Point du Jour, St. Hubert, and Malmaison, when, at about 6.30, Bazaine advanced at the head of the *Garde Impériale*, and, under a

THREE YEARS IN RIO HARBOUR.

BY ADMIRAL H. F. WINNINGTON-INGRAM.

(Concluded.)



E had not long been settled in our new abode, when climatic disorders began to develop themselves, and I was the first to feel their influence in a sharp attack of jaundice—a complaint that had prostrated me more than thirty years before when at Rio in my boyhood. In this instance, the weakening process was the same, and I was eventually carried up the mountains to Petropolis, some thirty miles distant, to see what the cooler temperature there would do for me. Hardly, however, had an improvement in my condition commenced, before I was hurried back to the ship, where my eldest daughter lay in a dangerous state from rheumatic supervening on scarlet fever. Happily, her youth and hot fomentations saved her life. But death had only been robbed of one child to prove victorious over another, and our little boy, Brazilian born, at Ponte d'Área, on the Praya Grande side of the harbour, after a short existence of six months, was taken from us.

Troubles were yet in store; one of the younger girls, while staying with her mother and little sister with friends on the island of Paqueta, was attacked with small-pox.

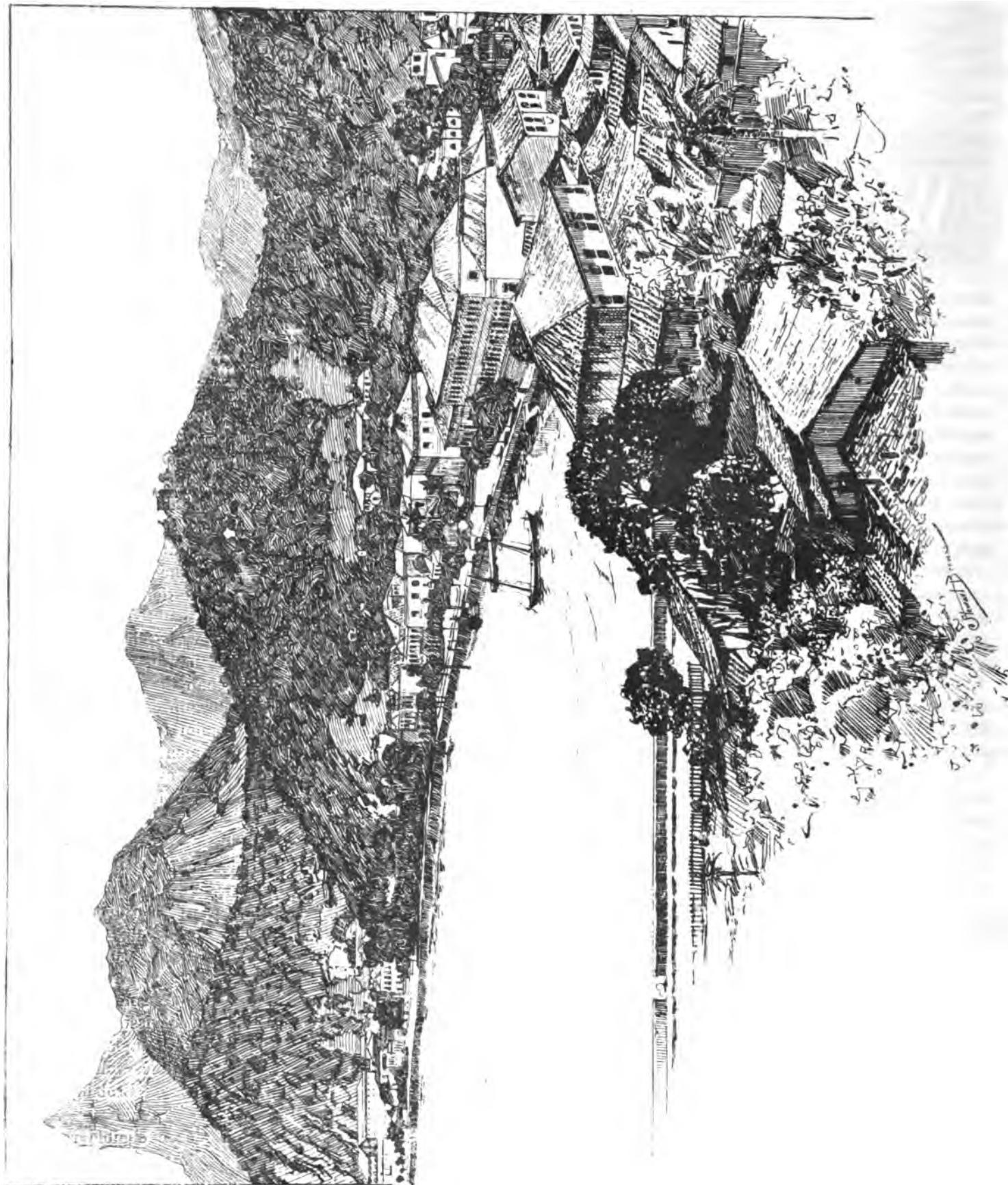
Our friends wisely decamped to Petropolis to avoid infection, and I had to put my family, myself, and the *Egmont* in quarantine for the same reason. Three out of my four children took the disease, and their mother was brought to a very low ebb of life by the assaults of climate, anxieties, and watchings. I had put them all into an empty house that was kindly placed at our disposal by people who had quitted the island, and I had now to furnish, stock, and daily provision it from the *Egmont*, ten miles distant. As all communication with the inmates of this refuge was forbidden, the different articles were landed and left within easy reach of them, so that after the boat's crew had retired to a respectful distance, the healthy members of the little household would sally out and carry the goods indoors. The disease went through its different stages, but luckily not in the virulent form it is wont to assume in colder climates, and, after a month or six weeks' isolation, my family was again restored to me, and from that time forward they were comparatively free from sickness.

Yellow fever, the scourge of the sea-ports in Brazil, happily, did not make its appearance in the *Egmont* during the years of my command; but it did so subsequently to our quitting Rio for England, and carried off some of our old shipmates.

We had, soon after our arrival at Rio, made the acquaintance of a Scotch lady and gentleman, whose names became as household words to those Britons who of late years visited Rio on the Queen's service, or for their own pleasure.

In Lady Brassey's book, *Cruise of the Sunbeam*, and Mr. Lambert's *Cruise of the Wanderer*, Doctor and Mrs. Gunning are most honourably and thankfully mentioned, the latter yachtsman terming the Doctor his guide, philosopher, and friend. Doctor Gunning had quitted his native land for Brazil, seventeen years before the time I write of, on account of his then delicate state of health, and, having taken his diploma at the Edinburgh College, was in all respects qualified to practise the medical profession in the country of his adoption. He chose for the scene of his operations the mining districts on the highlands far inland from Rio. Surgeons were much wanted there, and any services they rendered stood at a high premium. Doubloons flowed into the Doctor's pocket, and he soon became a man of capital; and then the question had to be debated in his own mind, what he should do with it. The good Scotchman was imbued with philanthropic ideas, so he came to the conclusion that his well-earned money could not be better spent than in the cause of emancipation. He therefore determined to help a number of slaves, who had begged him to assist them, to their freedom. He advanced the money to purchase this boon, and when the men were free, made a contract with them to pay back the amount in labour. Some of these he kept on his own purchased property at Palmerias near the town of Rodeio. It was a lovely spot situated on a range of mountains of about 2,000 feet in altitude, and fifty miles inland—by rail—from the capital. The trains were drawn up the steep inclines by powerful engines, called in the States "Bullgines," on account of their steam signals being given with a monstrous roar instead of the shrill whistle we are accustomed to hear in England and the Continent. The echoes in the hills, when these sounds issued forth, approached the sublime, and resembled a loud and prolonged peal of thunder, and at times might be likened to savage growlings of some Brobdignag carnivori.

The Doctor had built some half dozen eligible residences on his estate in a style suitable to the climate, and very much after the model of an Indian bungalow. All the rooms were on one floor, and a broad verandah ran round three sides of the houses. The fourth or



BOTAFOGO BAY, RIO JANEIRO.

back side of them was occupied by the kitchen, out-houses, etc. The small huts of the blacks were out of view some quarter of a mile away. The site of the residences was a plateau, partly natural, and in a measure artificial, on the side of the mountain, and about 1,500 feet above sea-level. The front of these dwellings looked down a steep descent that had been cleared of the primeval forest, and was laid out as a coffee plantation, but below this, again, the tropical wilderness resumed its sway. Immediately in rear of the little colony ran the railroad. It had been constructed with vast labour and expense, on account of the deep cuttings and numerous tunnels which were necessary in such an undertaking; added to these were the aqueducts of different sizes, which had to be made for conducting the many streams that sprang from this watershed, in a manner to render them innocuous to the line.

Above the railway cuttings were dense woods holding many of the arboreal monarchs of these regions. Some of the indiarubber trees stood 200 feet in height, while those like the "Paroba," which is felled for house materials and ship-building, and the dark iron wood, were little less in stature. These were garlanded with orchids of various colours, while huge creepers twisted themselves round their stately stems and brawny branches, and finally, hung pendant from the latter, so that the children evidently considered them as nature's swings improvised for their special amusement. My little ones used also to take great delight in playing hide and seek round the great roots of the indiarubber trees. These shoot out from the trunk at some height above the ground, and form solid buttresses all round it. They looked, in miniature, so like those seen at our older places of worship, that the children's vivid imaginations conjured the spaces between them into pews, and in these they used to spend hours "playing at Church." One of the beneficial ideas emanating from the Dóctor's active brain, was to create in these hills a sanitarium for those suffering from disease, or the victims of the fevers generated on the coast, and the "Egmonts" can vouch for the great benefits they derived from periodical visits to Palmerias. In return for the kindness shown us by this charming couple, we would ask them to spend a time on board the ship, to enjoy the fresh sea-breezes which they could not get at their inland home. The forests around "Palmerias" contained abundant life. Monkeys might be heard at times, chattering to each other amidst the thick foliage. Tapir and deer were occasionally met with, reptiles abounded, especially snakes, which would sometimes find their way into the houses, to the great alarm of the inmates. Fortunately, the most formidable-looking of these creatures was considered harmless; but when one of whip-like form appeared, then the commotion was great.

During a stay we made with the Gunnings, Mrs. G. had a narrow escape of being bitten by one of these deadly snakes. She was sitting in the library with her back turned to shelves containing books, when, from behind the latter, a most poisonous viper issued, unnoticed, and entwined itself round the back of her chair. Mrs. G., having occasion to rise from the seat, became aware of the reptile's presence, and only just escaped a dart it made at her neck. She at once called her black servants, whose hasty appearance frightened the creature into a retreat. It was, however, pursued, killed, and then found to belong to the venomous class of snakes.

The large tropical lizards, known in Brazil as the "Iguana," were frequently met with. Some of them attained the size of a full-grown rabbit, and, in running through the bush, made more noise than that animal. Their flesh is not so much sought after in these parts as in the Guianas.

The marsh and tree frogs were numerous, and held high revel, during the early hours of the night, by indulging in strange croakings.

The representatives of the feathered tribe were of great variety, and their plumage beautiful. The parrot is a *rara avis* about Rodeio, but parroquets may be seen in any numbers. The "toucan" and the anvil or "bell bird," would be especially noticed by their peculiar cry. The jungle at times resounds with noises as though a dozen blacksmiths were hammering away at their forges—"Clank, clink, clank, clink," with a strong metallic ring in the note, is the nearest idea I can give of it. All kinds of humming-birds would flit round the verandah, and occasionally pause to sip the nectar of the honeysuckles, and other flowering creepers that grew about it. One little imp, clad in colours of green, sapphire, and gold, with a body not bigger than that of a bumble bee, would, audaciously, come hovering on its tiny wings, within easy reach of one's arm; but when any person in the verandah made the slightest motion, it disappeared like magic. The velocity with which this minute creature effected its escape quite prevented the eye from following the bird's form, and a meteor-like flash through the air was all that became perceptible of its movement; in a second of time the brilliant little thing would be again poised at a safer distance, and apparently taking note of the many floral delicacies presented to its view.

The "gigantic humming-bird," with his shining green back and swallow-like tail, was also a constant visitor to the verandah. Insect life in this paradise came as a burden on the enjoyments of humanity. Mosquitos are a well-known plague in all hot countries, but here their plagueness was as nothing compared to the bite of a detestable little black fly, known to the natives as the "borashouda." It would choose for its attack the

most easily penetrated exposed part, which, in a person fully clothed, was a certain soft spot behind the ear. A sharp sting made the victim aware that the wee proboscis of the insect had effected an entry, and in a few moments a swelling, the size of half an egg, could be felt by the hand being placed where the skin had been pierced. Cockroaches swarmed in all the houses, but they had a deadly enemy in a black ant, called the "coreson," which paid them periodical visits. These were looked forward to with great satisfaction by the

sight." The ants had invaded the building by every available nook and cranny, and we stood watching the result. Presently, numbers of cockroaches, both large and small, appeared issuing from the house, and endeavouring to effect an escape from their relentless foes, but few succeeded; the ants were too nimble for the terrified creatures, and fastened themselves on their legs so as to impede progress, whilst others mounted the bodies of the unfortunates, and plied their mandibles on the vital parts. These were speedily consumed by



RUA DIREITA, RIO JANEIRO.

Doctor and his servants; and the former hastily called me up one morning to witness the approach and attack of the destroying army. Looking over the verandah rails, a long stream of these sagacious insects could be seen advancing in military form upon the premises. They seemed to be under some control, for when their column had reached within two or three yards of the house-walls, it opened out to the right and left, and then rushed on to the assault.

"Now," said the Doctor, "you will witness a curious

the swarms which now closed with the chase, and soon nothing was seen of the hundreds of cockroaches, that had made the house their home, but a few fragments of legs, wings, and skin. This slaughter and feast having been accomplished, the "coresons" took their departure in the same orderly manner in which they had arrived.

But other ants that invaded the Doctor's domain did not, in anywise, befriend him. A reddish kind, for instance, would always construct their nests among the roots of his coffee plants, and it was two negroes' daily

occupation to smoke them out, or, otherwise the shrub would have been completely destroyed by this pest. The damage done by the white ant (*termites*) to houses and vessels in other countries than Brazil, is well known to the general public. At Palmerias they had commenced upon the beams of the new dwellings with vigour, but their career was checked in time by a scalding process which exterminated them.

To give, if I were able, a catalogue of the thousand varieties of gorgeous butterflies and brilliant beetles that delight the eye of the visitor in his rambles through this enchanting region, would be beyond the scope of the present sketch; but two cases which we filled with them still remind us of the lovely forests and rushing streams we viewed while in search of those forming part of this collection.

My good friend, Doctor Gunning, has since been honoured by the Emperor of Brazil, who has appointed him a "Dignitary" of his Empire. His own countrymen have also conferred the degree of LL.D. in return for his liberal support of education in Scotland.

Our stay at Rio was enlivened in 1868 by the visit of H.R.H. the Duke of Edinburgh, then captain of H.M.S. *Galatea*.

The Admiral in command of the station, George Ramsay, C.B., afterwards the Earl of Dalhousie, had been warned that the frigate would touch at Rio on her voyage round the world, but had been led to suppose that the Duke would not assume Royalty in the presence of his flag. Great was his surprise, then, when one morning the *Galatea* was reported entering the harbour with the Royal Standard of England flying at her main truck.

Immense was the stir among the ships-of-war of all nations; boats were leaving their sides in charge of officers bent on obtaining from our admiral the course he was about to pursue, that their squadrons might follow suit. Soon all doubt on this matter was dispelled by the *Narcissus*'s guns belching out a salute of twenty-one guns, which was imitated immediately by the foreign vessels, until the anchorage was enveloped in a dense cloud of smoke.

Admirals, captains, commanders, in fact all the senior representatives of the different navies whose head-quarters were Rio de Janeiro, at once started off, arrayed in gorgeous apparel, to do homage to our sailor Prince, and soon, state barges from the shore were seen to move out towards the *Galatea*. These contained Imperial functionaries conveying the Emperor's welcome to Brazil.

Festivity succeeded festivity. Dom Pedro II.—a lover of science, and one of the most gifted monarchs in the

world—who cared more for the study of astronomy than that of gastronomy—had to throw his palace at St. Christopher open to a series of dinner parties, which included many British officers. Return entertainments were given by the Duke on board the frigate, and the English merchants, resident ashore, capped all by the splendour of a ball given in their unrivalled rooms at the Casino.

His Royal Highness danced the "Highland fling" to the tunes of his own bagpiper, and much to the gratification of the Brazilian guests there assembled. These included the Emperor, Empress, and their two sons-in-law, Conte D'Eu and Count Saxe with their wives. Mrs. Gunning—as a native of Scotland—joined the Royal set, and footed it with a zest and zeal that proved that climate and long absence from the Land o' Cakes had not deprived her, in any way, of the power to enjoy the pastimes she had so appreciated in her earlier years.

There is a great sense of humour in our Queen's sons. It is a well known quality in the Prince of Wales, and shows itself but little less pronounced in the Duke of Edinburgh, whom I witnessed plan a surprise for Dom Pedro on the occasion of his dining on board the *Galatea*. The Emperor had been received on her deck after dark. The ship was brilliantly illuminated by blue lights and port fires, which threw a ghastly light upon the faces of the men stretched out on the yards. A salute of twenty-one guns fired at the same moment, doubled the effect of this photogenic display, and the Imperial party retired, much pleased, to the Duke's cabins. At the dinner-table I happened to sit nearly opposite the Royal pair, and when the time came for proposing "Her Majesty's health" I noticed that the "Bagpiper" took up his position immediately in rear of the Emperor's chair, and on the toast being drunk with much effusion by the company, delivered himself of such an awful squirl that his Imperial Majesty, startled by the novel sound, instantly applied both hands to his ears and kept them closed, while Sandy, in full kilted costume, strutted to his own music (save the mark!) round and round the table.

I caught the Duke's eye during this performance. It perfectly beamed with fun, and I could see the difficulty he had in controlling further merriment.

The Emperor, after the first shock to his nerves was over, seemed much amused, and demanded many explanations in regard to this Gaelic custom.

The following year, the period of my command expired, and I returned to England with my family in the packet *La Plata*.

H. F. WINNINGTON-INGRAM.

THE CONQUEST OF THE PUNJAUB.

CHAPTER V.

THE SECOND PUNJAUB CAMPAIGN.—OPERATIONS ON THE FRONTIER.



F the siege of Mooltan redounds to the credit of the British army, what terms can be applied to those heroic officers who, thrown on their own resources, succeeded in holding in check the risings in the outlying districts to which they had been appointed.

The operations of Reynell Taylor in Bunnoo, have never been surpassed in the annals of the British army, and though at the time he received the warmest commendations of the Government of India—was rewarded with the *local rank of Major*—he who saved a province, who alone and unaided prosecuted a siege, held at bay the Afghans, and drove the Sikhs across the Indus, met with no further recognition from our State. As modest and unassuming as he was gallant and upright, Taylor was a striking representative of the Christian soldier; careless of reward so long as his conscience told him he was doing his duty, he laboured on, on the Punjaub frontier, for another quarter of a century, and then retired as a major-general with but the Civil Ribbon of the Bath and Star of India on his breast. Yet Reynell Taylor's services were not confined to this campaign alone. In the Mutiny he played a hero's part; in the short incursion into the Wazeeree County in 1860, he was chief political officer; and was wounded in a hand-to-hand encounter with three of the enemy. In the Umbeyla expedition three years later he again had charge of the Political Department, and again gained the favourable mention of Government. But Taylor was an upright man, and where an enemy was in the field against us, he knew of but one way of bringing that enemy to reason; he scorned those pecuniary dealings with recalcitrant tribes which have been successfully used in bringing about a peaceful termination to dangerous combinations, and he was consequently passed in the race of life by men who were not worthy to stand before him. It is not of Taylor's late service I have now to speak, it is of his conduct in the campaign of 1849.

On the first news of the disturbances at Mooltan, Taylor had been despatched to Bunnoo to replace Herbert Edwardes, who had marched to the south. Here he found a most serious state of affairs awaiting him. Moslem and Sikh had united to oust the British

from the Punjaub, and a bitter war against the infidel had been decided on. The Sikhs had seized the Fort of Dhuleepgurk, which had been erected by Edwardes in the very centre of the valley, they were in possession of that of Lukku, situated on the high road between Bunnoo and Lahore, and lying midway between Bunnoo and the Indus; they possessed the fort of Esakhel at the principal point of passage on that river, and they were in daily expectation of the arrival of a strong force from Afghanistan; Dost Mahomed, the Sovereign of that country, having thrown in his lot against us.

Many a stout heart would have quailed before such difficulties; Taylor's only beat the higher.

Without guns, without sappers, without a single English colleague, and with but raw untrained levies at his disposal, Taylor felt it impossible to undertake the siege of Fort Dhuleepgurk—or to put it more plainly to English readers, the fort of Bunnoo. It is true, that by his personal influence over the Pathan tribes on the frontier, Taylor's force was gradually gaining cohesion; but it was yet scarcely removed from a rabble. The Nawab of Tank and the Khans of Esakhel had rallied to him, and he was enabled to procure from the former a couple of old honeycombed guns. But the Bunnoo fort, constructed by Herbert Edwardes with Taylor's assistance, was of a nature to defy any attempt he might make on it. He pithily wrote:

"The Fort of Dhuleepgurk is very strongly built; the walls of the inner fort are twelve feet thick at the summit, and the mud of Bunnoo, when dry, is as hard as a stone. The ditch is twenty-five feet deep, and can be filled with water at a few hour's notice. The labour and difficulty of mining it would be incredibly great"; and then Taylor, with natural modesty, asks for "one or two guns of heavy calibre capable of effecting a breach in defence such as I have described"; but as if fearful that he was asking too much, he adds: "If they are not anywhere procurable, I daresay the light guns will do the work."

Yet in face of all these difficulties, Taylor's last thought was of self. Every man he could spare, aye many hundreds he could not spare, were despatched to the south to aid Edwardes. All turned to Taylor for help. Herbert shut up in Attock, Lawrence in Peshawur, Edwardes at Mooltan, all addressed urgent appeals to

Reynell Taylor for men and guns. Men! when he himself had but a few hundred faithful Pathans to make head against Sikh and Afghan regulars. Guns! when he was himself, for want of them, obliged to refrain from entering upon a siege of Bunnoo. But in '48 and '49 men had strong faith in Reynell Taylor.

At last, in December, Taylor felt himself strong enough to undertake the siege of Lukku. His force consisted of about 600 roughly-trained men and two guns, borrowed from the Nawab of Tank. Years ago, when assisting Sir Charles Macgregor in the compilation of the Gazetteer of Central Asia, I came across Reynell Taylor's rough diary of the siege, amongst the records in the Deputy Commissioner's Office at Bunnoo. Hastily scribbled on rough native paper, the notes possessed a pathetic interest. There, cut off from home friends, in the midst of men with whom the enemy



BRIGADIER-GENERAL COLIN CAMPBELL.

were in daily correspondence, the gallant young subaltern stood undaunted. A cavalry officer destitute of all military training, he yet undertook a task before which many an older and more experienced soldier would have quailed—aye, and succeeded too. The story of the siege is best told in his own words:

"The fort of Lukku is built on a parallelogram, with sides of about 250 yards. The eastern and western bastions are large and prepared expressly for cannon. There is an inner fort, with sides of about 100 yards; guns can be mounted on its four bastions; its walls are 15 ft. high and loop-holed. The ditch is deep and full of water. The fort is provided with a well and tank,

both in good order. The defence added by the garrison was a rough *chevaux de frise* an outwork to enable them to command the river. The garrison amounted to 860 men, regular troops of the Sikh army.

"Dec. 11th.—Arrived at Lukku from Esa Khel.

"12th.—Reconnoitred. Determined on attacking the N.W. angle. Our men took possession of the position under a heavy fire from the guns of the fort.

"13th.—Commenced a battery for 2 guns on the right bank of the river, but the enemy's fire was so rapid and well-directed that I feared the gun would be injured on its way down, so was obliged to defer mounting it till nightfall. Commenced the trenches.

"14th.—Opened fire on the fort; very ineffective and weak; guns old and honeycombed and untrue, the carriages falling to pieces; hammered, shot carelessly made, not nearly large enough for the bores of the guns. Often missed the fort altogether, though within easy range.

"15th.—The garrison put some sharp-shooters in a fakir's hut, who annoyed the men in the trenches a good deal.

"16th.—Sent the garrison a Government *puruwauna*, ordering them to surrender the fort to me. After detaining my men a whole day, consulting on the subject, finally refused.

"17th.—Garrison occupied the nullah near the fakir's hut, under the fire of the fort guns, and in front of our trenches, on which they opened a most galling fire. Gholam Hussein Khan, who was commanding in the trenches, pushed forward his men to attack them, and a severe light-infantry fight ensued. The irregulars behaved with great spirit, pushing close up to the nullah, finding cover or making it where none apparently existed, being exposed at the time to a plunging fire from the fort guns, as well as the fusillade of their immediate opponents. I brought down the Zumbooruks (camel-guns) to the bank of the Gambula, opposite the nullah, and thus enfiladed the enemy's sharp-shooters, which had a good effect, and after losing a number of killed and wounded, they deserted the nullah and sought the protection of the fort.

"19th and 20th.—Trenches being carried forward daily, but we laboured under great disadvantages from the hardness of the ground and the want of efficient workers and tools. Meer Alum, the rebel Mullick of Bunnoo, daily threatens to bring a force and raise the siege, and I am obliged, in consequence, to place strong parties on the main roads, and patrol between them at night.

"21st, 22nd, 23rd, and 24th.—Trenches carried up to within 250 yards of the fort, and a fresh battery made.

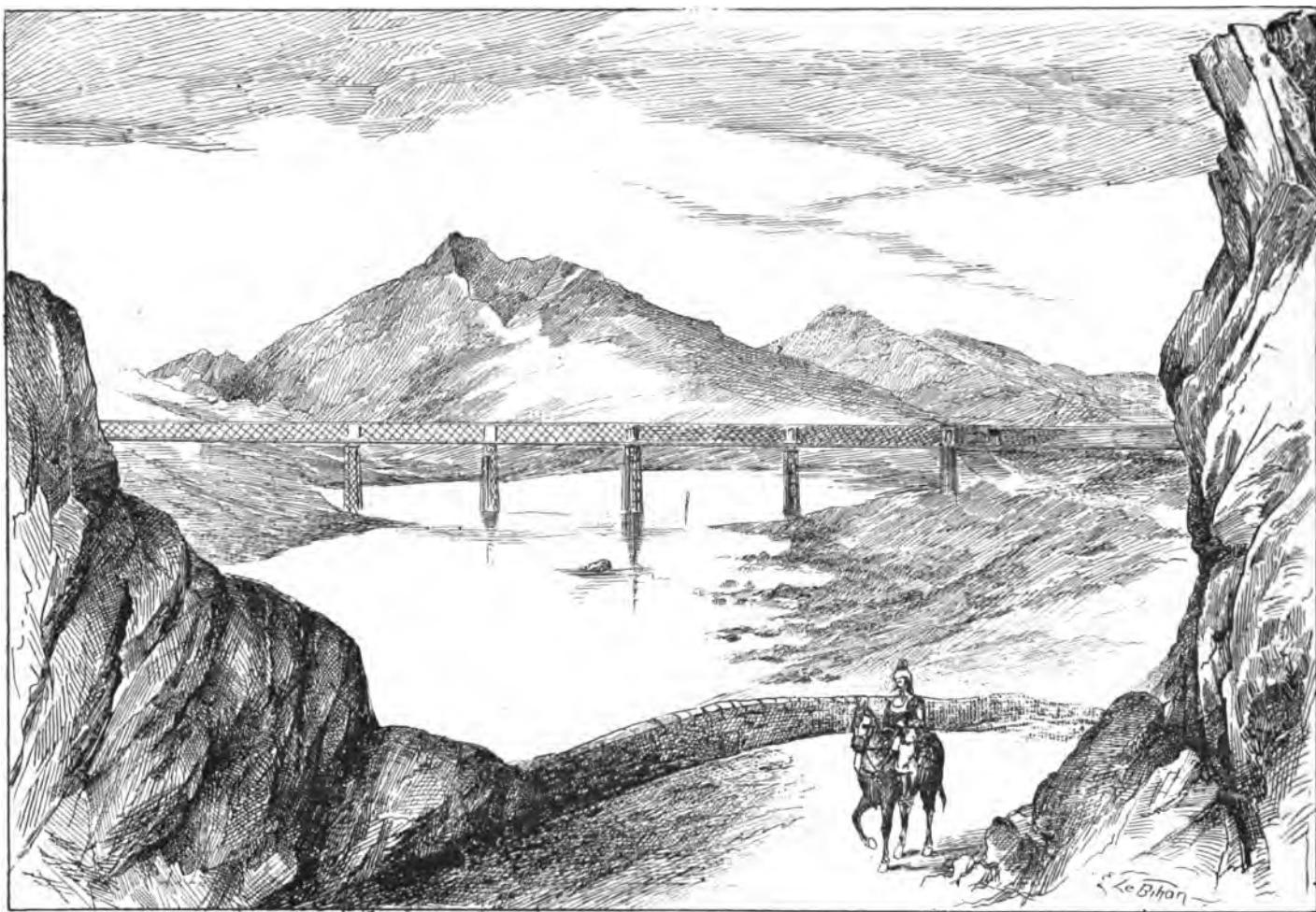
"25th.—New battery opened fire, still ineffective, and returned by the fort with great rapidity and precision,

every shot striking the battery, passing through the embrasures, or grazing the crest of the embankment. Their third shot hit one of our guns in the muzzle, another killed a gunner.

"26th.—Batteries injured by our own fire. I had made gabions, but there being no good wood for the uprights of them procurable, they opened out from the shock of the explosion, allowing the earth to crumble through the interstices. They were, however, a great improvement on the rough and weak batteries made at first, and the men were much pleased with them.

"6th and 7th.—Received intelligence of the capture of the city of Mooltan; fired a salute in the battery. The garrison fired round shot among us during the salute.

"8th.—Found sandbags very useful in the trenches; hard put to it for a rolling sap, there being no wood procurable. Tried two sacks stuffed with bhoosa (chopped straw), but the fort gunners sent a round shot through each, first one and then the other. I had four sacks sewn together, and stuffed with well-rammed cotton, which answered very well at night. Opened a



RAILWAY BRIDGE, OVER RIVER INDUS, AT ATTOCK.

"27th.—Heard that a strong force of Sikh and Afghan horsemen had been seen at a place under the Khuttuk hills; obliged to turn out strong patrols to keep them off.

"Jan. 1st, 1849.—It is confidently reported that the Afghans, under Khoja Mahound Khan, have arrived at Khurruk, three marches from this.

"3rd.—Garrison threw their 8 in. shells into our batteries and trenches.

"4th and 5th.—Garrison constructed an outwork immediately in front of our sap.

fire from the new battery on the edge of the nullah, 190 yards from the ditch of the fort.

"9th.—The garrison latterly have not attempted to serve their guns under our fire; but to-day they returned it with great spirit, and a severe cannonade and fusillade was kept up for a considerable time by both parties, battery and sandbag versus bastion and parapet, and the former had decidedly the best of it. We had only one man mortally wounded; the garrison had six men killed outright.

On the following day, the garrison sent in emissaries

to treat for surrender, and, the same evening, Reynell Taylor, having given them a safe conduct to the Indus, took possession of the fort with its twelve guns. He was now in a position to defy the Afghans, whose tents could be descried in the distance; but they showed as little inclination to face Taylor when behind the walls of Lukku as they had to attack him when lying in the open, and the brave young Englishman was now able to concentrate his efforts on strengthening the defence of the fort, and in consolidating his position amongst the tribes.

He was soon destined to receive welcome reinforcements; the capture of Mooltan left us free to detach strong bodies to reinforce Lord Gough's army, and to the aid of the officers in the outlying districts. Irregulars had done so well in the Trans-Indus provinces, that no idea was entertained of sending any portion of the regular army to carry on the work of subjugation and pacification so admirably begun by Edwardes, and so nobly carried on by Taylor, but Lieutenant (now Major-General Sir F. R.) Pollock and Lieutenant Pearse were directed to move up from Mooltan into the Derajat with a large portion of the force with which Edwardes had marched down from Bunnoo, whilst Lieutenant Young, with another detachment, advanced into the Dera Ghaza Khan district. The former effected a junction with Reynell Taylor in the month of February, and the effect of the reinforcement was speedily seen in the surrender of the fort of Bunnoo. Young, advancing against Hurrund, a strong position, yet in the hands of the rebels, met with an equal measure of success.

George Lawrence, we have seen, was compelled to surrender Peshawur to the Sikhs, and was, with his wife and assistants, for some weeks a prisoner in their hands, they were, however, treated with kindness, and finally surrendered to Lord Gough after Chilianwallah.

Abbott, despite the open hostility shown by the Sikh Sirdar in Hazara, held a firm grip on that district, and succeeded in inflicting considerable losses on the enemy in a series of sharp, though long since forgotten, engagements.

Herbert, after gallantly defending Attock for some weeks, was subjected to a close blockade by the combined Sikh and Afghan force in the neighbourhood of Peshawur. His own garrison was largely weakened by desertion, and he was consequently deprived of all confidence in the remainder. He fought for long against the inevitable, and at last, on the 5th January, he evacuated the fort, dropping down the river at night with a few companions, and thus the road from the Khyber to Shere Singh's army on the Chenaub was open to the passage of Dost Mahomed's army.

It was not only on the North-West Frontier of the Punjab that minor operations were carried on. Risings in the hills near Kangra led the Commander-in-Chief

to feel some anxiety for his right flank, and Brigadier Wheeler was despatched with a brigade which included two of the local Sikh regiments raised at the termination of the Sutlej campaign, in order to put an end to all disquietude on this score. One or two sharp engagements took place between the insurgents and Wheeler; and in a few short weeks that officer was enabled to report the recently disturbed districts as perfectly peaceful. In these operations, the 1st and 2nd Regiments of Sikh Infantry, which have since shown their metal in many a stoutly contested fight, proved that the Sikh, having once tasted the salt of the Sirdar, might be trusted to fight for us even against those of his own faith.

CHAPTER VI.

THE SECOND PUNJAUB CAMPAIGN—ADVANCE OF LORD GOUGH—RAMNUGGUR.

The dislocation of the Sikh forces at Mooltan, and the march northwards of Shere Singh with the flower of the Khalsa army, warned the Governor-General that vigorous offensive measures would be necessary in order to stamp out the opposition to British rule which was so rife throughout the Punjab.

Mooltan, it is true, was in our hands; Reynell Taylor was holding his own in the Bunnoo district; Abbott in Hazara and Herbert at Attock were playing a part which it has been permitted to few subordinates to assume in our military annals. But, on the other hand, the Afghans had joined hands with their hereditary foe, and, throwing aside all remembrance of their former enmity, the followers of Mahomed and of Nasruch were moving down on the hated Feringhee. Lahore itself was threatened, and the bridge of boats over the Ravee only saved from destruction by the prompt movement of the 14th Light Dragoons to the Peshawur road. It was absolutely necessary to keep the enemy at a distance from Lahore. The population, embracing thousands of fanatical Sikhs and still more fanatical Mahomedans, was but too ready to throw in its lot with Shere Singh; and it needed some diplomatic *finesse*, and much military boldness, to garrison this formidable centre with the small force at our command. A purely defensive attitude would have cost us the city; yet to assume the offensive seemed hazardous in the extreme. The campaign of 1846 had taught us the sterling worth of our enemy, and our men knew full well they would be pitted against foemen worthy of their steel; yet Gough never wavered, and the Governor-General supported his every demand with cheerful confidence. Orders were issued for the formation of the Army of the Punjab, and, in the meantime, Colonel Cureton, Adjutant-General of Her Majesty's Forces in India, who was appointed to the command of

the cavalry division of the army, and Brigadier Colin Campbell, C.B., were pushed forward to Goojranwallah to cover the assemblage of the British forces and ward off any threatened blow on Lahore.

The force thus pushed forward was strong enough to bar the advance of Shere Singh, but not strong enough to undertake any offensive operations. Its leaders were men well skilled in war, and possessed, as indeed they deserved, the fullest confidence of their troops. Campbell was destined to rise to the highest honours, but, although for a few brief years the name of Clyde honoured our

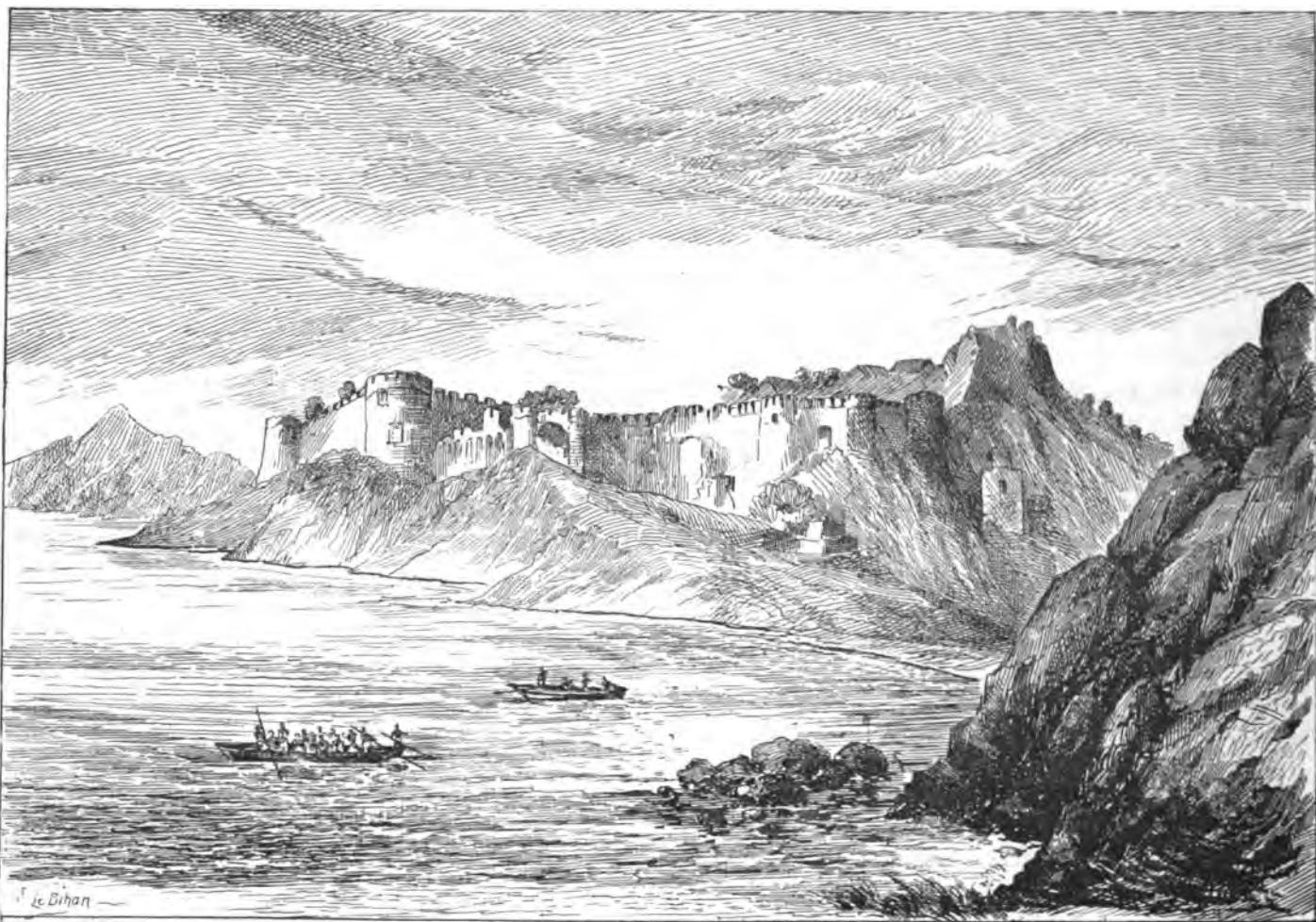
Infantry, 70th Bengal Native Infantry, 73rd Bengal Native Infantry.

Early in October 1848, the composition of the Army of the Punjaub was announced in general orders. Lord Gough himself assumed the chief command, and moved up to Ferozepore, accompanied by the head-quarter staff, to superintend the general direction of affairs. The staff of the army was composed as under :—

Adjutant-General—Lieut.-Colonel H. P. Grant.

Quartermaster-General—Lieut.-Colonel Garden.

Judge Advocate-General—Lieut.-Colonel R. Birch.



FORT ATTOCK, ON THE RIVER INDUS.

military peerage, it is as Colin Campbell that the brave old Scot will live in soldiers' memories.

Cureton, alas ! found a soldier's death in the first campaign.

The force at Goojranwallah consisted of the 3rd Light Dragoons, 9th Royal Lancers, 14th Light Dragoons, 5th Bengal Light Cavalry, 8th Bengal Light Cavalry, 12th Irregular Cavalry, three troops Bengal Horse Artillery, 61st Regiment, 2nd Bengal European Regiment, 31st Bengal Native Infantry, 36th Bengal Native Infantry, 46th Bengal Native Infantry, 56th Bengal Native

Adjutant-General of Her Majesty's Troops—Major E. Lugard.

Quartermaster-General—Lieut.-Colonel G. Gough.

Chief Engineer—Brigadier Cheape.

Commander of Artillery—Brigadier Tennant.

Principal Medical Officer—Dr. Renny.

Principal Commissariat Officer—Captain Ramsay.

Cavalry Division.

Brigadier-General Cureton, C.B., Commanding; A.D.C. Lieutenant Cureton; D.A.A.G. Captain Pratt, 9th

Lancers; D.A.Q.M.G. Lieutenant Tucker, 8th Bengal Light Cavalry.

1st Brigade.—Brigadier Michael White, 3rd Light Dragoons; 14th Light Dragoons, 5th Light Cavalry, 8th Light Cavalry.

2nd Brigade.—Lieut.-Colonel Pope, 6th Bengal Light Cavalry; 9th Royal Lancers, Major Hope Grant, 1st Bengal Light Cavalry, 6th Bengal Light Cavalry.

3rd Cavalry Brigade.—Brigadier Hearsey; 3rd, 9th and 14th Regiments Irregular Cavalry.

4th Cavalry Brigade (with General Whish at Mooltan).—Colonel Salter. 11th Bengal Light Cavalry; 11th Bengal Light Cavalry, 7th Irregular Cavalry, 11th Irregular Cavalry.

1st Infantry Division (carrying on the siege of Mooltan).

Major-General Whish; A.D.C. Lieutenant Need, 14th Light Dragoons; A.A.G. Captain Whish; A.Q.M.G. Lieut.-Colonel A. Beecher.

1st Brigade.—Brigadier Markham commanding; 32nd Cornwall Regiment, 49th Bengal Native Infantry, 51st Bengal Native Infantry.

2nd Brigade.—Brigadier Harvey; 10th North Lincoln Regiment, Lieut.-Colonel Franks, 8th Bengal Native Infantry, 72nd Bengal Native Infantry.

2nd Infantry Division.

Major-General Sir Walter Gilbert, K.C.B.; A.D.C. Lieutenant C. Colt, 3rd Light Dragoons; A.A.G. Major Chester; A.Q.M.G. Lieutenant Galloway.

3rd Brigade.—Brigadier Mountain; 29th Worcestershire Regiment, 30th Bengal Native Infantry, 52nd Bengal Native Infantry.

4th Brigade.—Brigadier Godby; 2nd Bengal European Regiment, 31st Bengal Native Infantry, 70th Bengal Native Infantry.

3rd Infantry Division.

Major-General Sir Joseph Thackwell, K.C.B.; A.D.C. Lieutenant E. Thackwell, 3rd Light Dragoons; A.A.G. Major Ponsonby; A.Q.M.G. Ensign Garden.

5th Brigade.—Brigadier Pennycuick commanding; 25th or 2nd Warwickshire Regiment, 25th Bengal Native Infantry, 45th Bengal Native Infantry.

6th Brigade.—Brigadier Penny; 15th Bengal Native Infantry, 20th Bengal Native Infantry, 69th Bengal Native Infantry.

7th Brigade.—Brigadier Hoggan; 61st Gloucestershire Regiment, 36th Bengal Native Infantry, 46th Bengal Native Infantry.

The artillery under Brigadier-General Tennant, C.B. consisted of eight troops Bengal Horse Artillery, commanded respectively by Major T. Fordyce, Captains W. R. Warner, M. Mackenzie, J. Anderson, F. Duncan, A. Huish, R. Kinleside, and Brevet Lieut.-Colonel Lane,

C.B., Major Christie. Six batteries field artillery, under Captain M. Dawes, Major E. Ludlow, Lieutenant Robertson, Captain Austen, Captain Turnbull, Captain Bailey; and four heavy batteries under Major Sir R. Shakespear, Captain J. Shakespear, Captain E. Master, Captain Robinson.

Early in November, in consequence of the earnest representations of Sir Frederick Currie, our Resident at the Sikh Court, Lord Gough, without waiting for his heavy guns or engineer train, pushed on from Ferozepore to Lahore, the 3rd Division under Thackwell forming the advance guard. A halt of but two days was made in the capital, and the army then advanced to Norwallah, and there effected a junction with Colin Campbell, who was encamped at Saharan. The Sikhs were reported in force at Ramnuggur, a place about ten miles distant; and Gough, acting on the information collected by Cureton, who, with the major part of the Cavalry Division, had been lying in the vicinity of Saharan for some weeks, determined on a reconnaissance in force before advancing with his main army. The force which accompanied the Commander-in-Chief consisted of the 3rd and 14th Light Dragoons, 5th and 8th Bengal Light Cavalry, and 12th Irregulars, with Lane and Warner's troops of Bengal Horse Artillery under Brigadier-General Cureton, and the following infantry regiments, the whole under the command of Brigadier-General Colin Campbell: 61st Foot, 2nd Bengal Europeans, 31st, 46th and 70th regiments Native Infantry, and the light field batteries, under Captains Austen and Dawes.

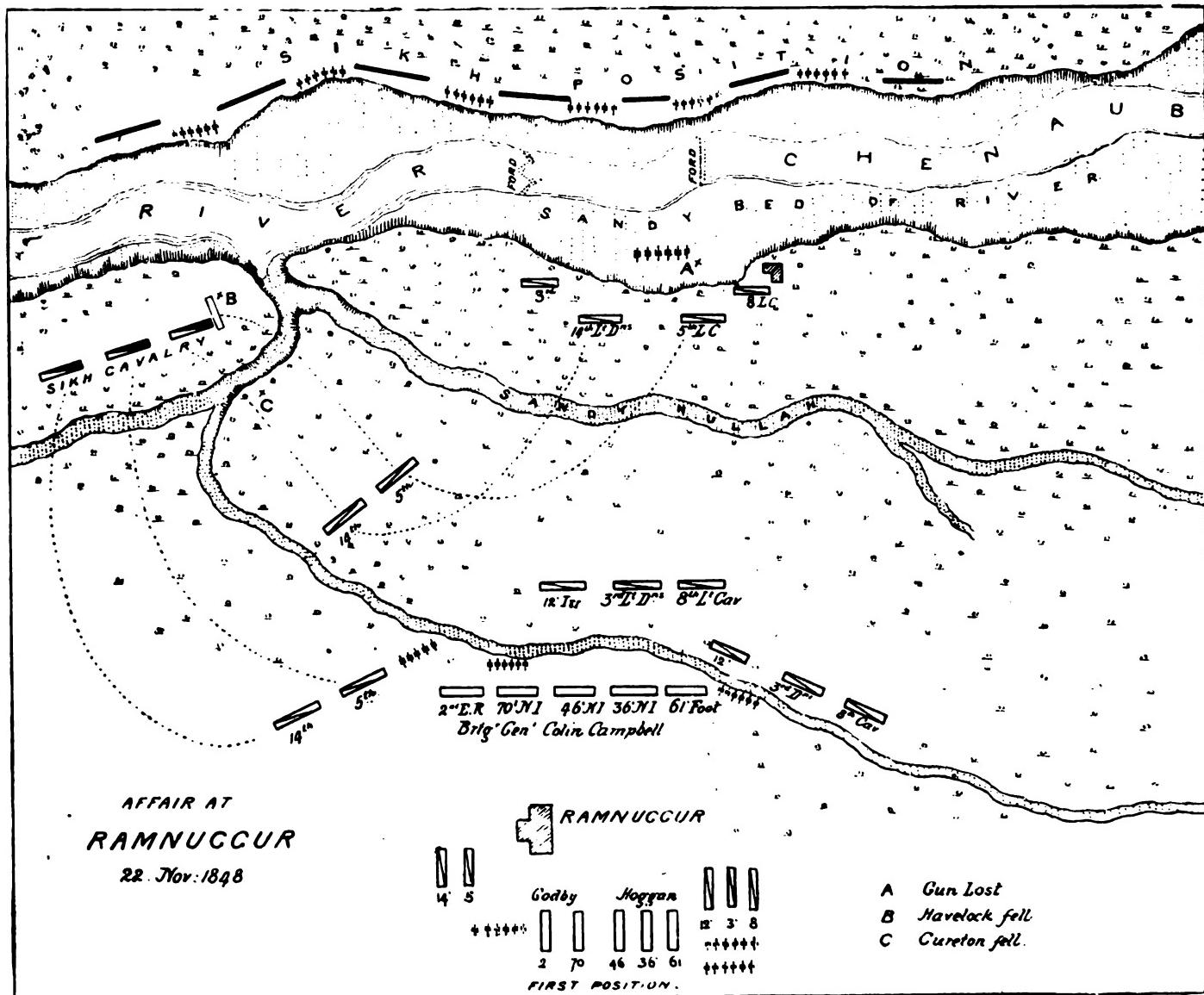
On the 22nd November, Lord Gough moved to the front with the above force, the Sikhs falling back before him to the dry bed of the river. The Horse Artillery was pushed rapidly forward to play on the retreating enemy, and unfortunately got entangled in the sandy bed of a nullah under a very accurate fire from the heavy guns of the Sikhs. The 3rd Light Dragoons and 8th Bengal Light Cavalry, under their brave Brigadier, Michael White, made several gallant efforts to extricate the guns, and inflicted heavy loss on the Sikhs in their repeated charges. Cureton, however, felt himself reluctantly compelled to withdraw his artillery, leaving one gun and two waggons belonging to Lane's troop, in the hands of the enemy. Elated with their success, the Sikhs pressed forward and secured their trophy, and then, with loud shouts of "*Wah wah Gooree jee ki futteh*," crowded on the hither bank and poured withering volleys into our retiring troops. Seeing the enemy once more in the open, Cureton begged to be allowed to move forward again to the attack, and Gough, persuaded against his better judgment, gave a tardy acquiescence to his demand. The 14th Light Dragoons and the 5th Bengal Light Cavalry at once wheeled round on the enemy, and the former regiment, under its gallant leader, William Havelock, boldly bore down on

the disorganized masses lining the river bank. The charge was successful beyond measure, and in a few short minutes the Sikh Infantry were flying headlong across the sandy bed of the river, vigorously pursued by the 14th. Havelock, not content with this success, calling on the supporting squadrons of the 14th to move up to his aid, continued his pursuit through the heavy sand; in so doing he became exposed to the fire of the guns which had previously compelled the retreat

such a rapid movement, mistook the body he was instructed to charge, and moved upon and overwhelmed another much closer to the river, which exposed him to a cross-fire from the enemy's guns. I never witnessed so brave a charge, but I regret to say the loss was considerable."

It was indeed heavy.

General Staff.—Lieut. the Hon. A. Hardinge, severely wounded.



of Michael White's brigade; his regiment suffered heavily. In commenting on this sad affair, the Commander-in-Chief wrote:

"I witnessed with intense anxiety, but equally intense admiration, a charge made by Lieut.-Colonel Havelock, at the head of the 14th Light Dragoons, who, I fear, misconceived the orders he received from the Officer Commanding the Cavalry Division; or from the inequalities of the ground, and the fearful dust, occasioned by

Cavalry Division.—Brigadier-General Cureton, killed.

14th Light Dragoons.—Lieut.-Colonel W. Havelock, K.H., and Captain J. H. Fitzgerald, killed; Captain R. H. Gall, Captain A. Scudamore, Lieut. W. MacMahon, and Cornet the Hon. R. Chetwynd, wounded.

5th Light Cavalry.—Lieut.-Colonel W. Alexander, Captain A. Wheatley, Captain J. S. Ryley, wounded.

Havelock himself fell a victim to his valour; Brigadier-General Cureton, in endeavouring to withdraw the troops

after their headlong charge, was shot through the head. The brave Colonel of the 5th Light Cavalry lost an arm, whilst twenty-six men killed, and fifty-nine wounded, made up the total of our casualties. These casualties were confined to the Cavalry Brigade, and occurred principally in the 14th Light Dragoons and 5th Light Cavalry. The Infantry under Colin Campbell were not engaged, but the retreating Cavalry were saved from disaster by the judicious movements of that brave soldier, who showed so bold a front to the advancing Sikhs, that their efforts to pursue our broken Cavalry speedily died away.

By nightfall the Commander-in-Chief was reinforced by the whole of the army, for Sir Joseph Thackwell, on hearing the sound of the artillery duel, at once struck his camp and marched his own and Gilbert's division to the noise of the guns ; but even this seasonable aid did not warrant Lord Gough in undertaking any fresh offensive measures. The heavy artillery were still between Lahore and Ferozepore, as also was his pontoon train ; and to operate in the land of the five rivers, and in the face of the admirably served Sikh artillery, without these invaluable appendages to a modern army, would have been nothing short of madness. The Sikhs had never shown themselves indisposed to meet us in the open ; and as our force was immeasurably inferior to them in numbers, as well as in guns, Gough determined to entrench his position at Ramnuggur, and thus render it impregnable to attack should his enforced halt tempt the Sikhs to undertake the offensive.

The death of Cureton necessitated a redistribution of commands, and Lord Gough showed himself a rare judge of men in nominating Sir Joseph Thackwell, an experienced cavalry officer, who had left an arm on the field of Waterloo, to the command of the Cavalry Division, an appointment to which he might, with propriety, have been nominated at the outset of the campaign. The 3rd Division was bestowed on Brigadier-General Colin Campbell, C.B., an equally judicious

selection. Both were officers inured to war. Thackwell had served throughout the Peninsula from Corunna to Toulouse. He had commanded the 15th Hussars at Waterloo, where he lost an arm. In the Afghan campaign he had commanded the Cavalry Division, and held a like appointment in the Gwalior war of 1842. Yet Thackwell, like many another gallant soldier of those days, held but temporary rank in India ; he was Lieut.-Colonel of the 3rd Light Dragoons, though his war service and experience clearly proved him worthy to hold the highest grades.

Colin Campbell, too, was well known as a gallant soldier and skilful commander. He had served at Copenhagen and Walcheren ; at Barossa, when he was wounded, and mentioned ; at San Sebastian, when Sir Thomas Graham, the victor of Barossa, again singled him out for fame, and when the enemy's bullets again laid him low. He was one of those whom the fortune of war detained in America during the Waterloo campaign ; but as a volunteer he was present at the siege of Antwerp, and he had received his C.B. and A.D.C.-ship to the Queen for the recent China war, where Gough, who had fought by his side at Barossa, learned his sterling worth.

CASUALTIES AT RAMNUGGUR.

Corps.	Killed.		Wounded.	
	Officers.	Men.	Officers.	Men.
Staff	1	—	1	—
3rd Light Dragoons .	—	1	—	5
14th Light Dragoons .	2	23	8	50
5th Bengal Light Cavalry —	—	9	3	13
8th Bengal Light Cavalry 1	—	1	—	2
12th Irregular Cavalry .	—	—	1	—
Bengal Artillery . .	—	—	—	2
Total . . .	4	34	13	72

In addition to the above, 77 horses were killed, and 122 wounded.

(To be continued.)



A DRIVE THROUGH GIBRALTAR.

BY ARTHUR M. HORWOOD, AUTHOR OF "TWO FAVOURITE RESORTS OF THE CHANNEL SQUADRON," ETC.



T is more than probable that if you ever chance to address the inquiry to the "travelled man" of your acquaintance, whether in the course of his world-wide rambles he has recorded a visit to the first of our linked stations on the highway to India, he will immediately reply in the affirmative; but on your further instituting inquiries respecting the duration of his sojourn there, the accommodation provided by the hotels, and the impressions various and many received, he will hasten to disabuse your mind on the score of his having ever *stayed* there, in the general meaning of the word, or having even so much as set a foot ashore. "It is only from the bay that I have seen Gib," he will apologetically explain; "just touched in there, you know, to coal; but the boats stay there such a moment, there is no time to go ashore—it always happens so." And here the "travelled man" speaks truly. Indeed, unless you decide to take your passage for Calpe, or hit on the plan of deserting your ship on calling in there, you will have little chance of ever threading its motley-peopled white streets, and exploring its world-renowned galleries. There are, of course, no lack of people who admire the giant rock from the deck of incoming steamers, but with that superficial acquaintance they are, perforce, compelled to rest content. The stately P. and O. liner just sweeps round the rugged breakwater, with its pagoda-fashioned yellow lighthouse, into the bay, lets go her anchor, discharges a handful of military personages, and a boatload of parcels, replenishes her bunkers from the coal-barge that has sheared alongside with the alertness and dexterity that one might expect from a Chinese junk of piratical tendencies, and away she goes almost before her passengers have had time to regulate their watches by the strident voice from the clock-tower which rears its tall proportions at the head of the new mole, or to regret their inability to land.

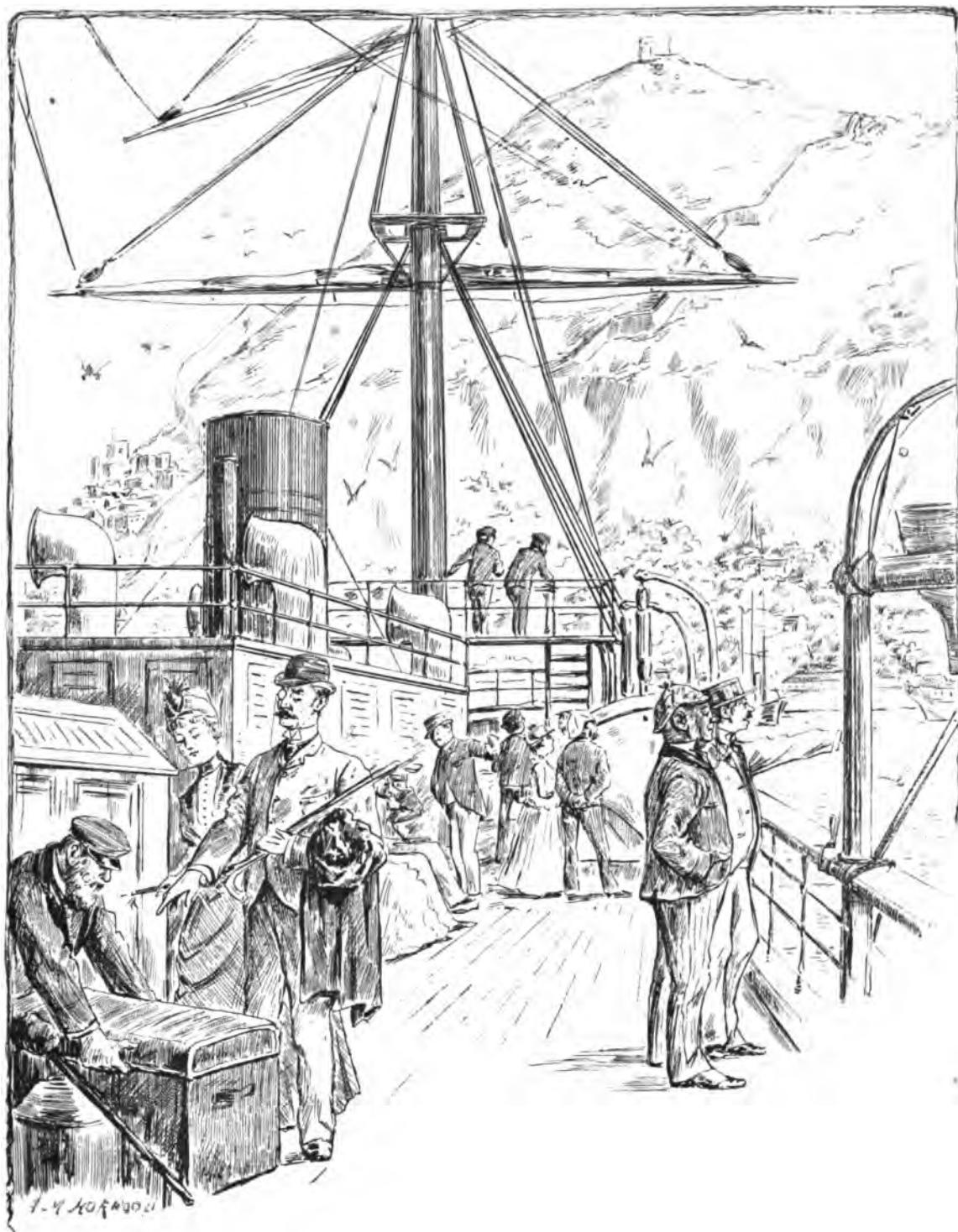
We will suppose, however, for this instance, that you—or say I—am of a daring stubborn temperament, that I have arrived at the determination that I will skip ashore and back before my ship leaves, merely to prove its feasibility—just to say I have been there, and scuffed my boots in the dust, to claim being an exception to the rule. Well; the captain to whom I laughingly impart my project—with a view, perhaps, to enlisting his sym-

pathies and obtaining, say, a quarter of an hour's grace, should haplessly unforeseen contingencies frustrate my timely return—is polite but firm: "We shall up anchor in an hour's time," he says pithily; "if you are not back by then, you will be left behind." It is a warning not to be disregarded, he is quite in earnest. Visions of a frantic gentleman wildly urging and piteously imploring his boatman, with promises of reward, to overtake a certain quickly-receding steamer that is bearing away his worldly goods and his passage ticket ownerless, may be to the Antipodes, leaving him to wander homeless and bereft of all—including his senses—in the streets of Gibraltar, rise in my mind. I waver and vacillate in my determination; but 'tis for a moment. Wilfulness that is not discarded with peg-tops and hoops asserts its supremacy; go I will *coute que coute*, and I tumble down the gangway into the gaudily-painted shore-boat, decorated with the same chaste taste that distinguishes the penny ice-barrows of our own metropolis, bidding the "rock scorpion" waterman set me ashore at the new mole stairs with all speed.

It is close on midday. Fiercely the sun strikes on my head and shoulders, and blindingly is reflected in my eyes as I sit close upon the surface of the glassy water. The sea-gulls appear huge as eagles by reason of their contiguity; they approach almost within arm's reach, uttering their shrill screams and flecking the bay with spots of shadow. The boatman pulls round under the stern of a spick and span government despatch-boat that trails its ensign, with the red St. George's Cross on the white field, in the still air, and is reproduced inversely, together with the whole fabric, in the watery mirror below. A multitude of sounds now come from the neared shore, intensified by the towering background of rock with minute distinctness, the clear ring of an anvil, the stentorian and regularly recurring cry of a man, presumably a street salesman, the rumble of a heavy vehicle, the twang of a bugle, and an indescribable hum or buzz that comes from all quarters at once on the deadened air. Then a dull concussion is experienced, and the boat oscillates from side to side. Looking in another direction, I am not aware till then that a row of rugged steps, topped by dark cavernous sheds, have reared themselves above my head. The mole is reached. On the bottommost step, with the water silently lapping at his feet, stands a sedate staff-sergeant, a family man, as though to receive me, firmly clasping the hand of

his youthful offspring, an embryo sailor, who is gleefully pointing to the shadowy fish that the translucent element reveals in scores, sporting hither and thither far beneath its placid surface. High above, on unstable

scantly-draped senile figure with hoary forelock and gleaming scythe, who holds his fast-emptying hour-glass grimly in my face, I surely fall into the weakness of human nature of craving for the impossible, of deplored



ENTERING GIBRALTAR BAY.

planks, trip to and fro agile, sure-footed labourers, black as gnomes, carrying baskets, with which they are unloading an equally dusky-complexioned collier.

Situated as I am, goaded and sore pressed by that

my present migratory lot. It is so natural to cry for the moon. To any person making a protracted stay at Gibraltar, the prospect of clambering up to the giddy heights of the signal-station may quite possibly en-

gender procrastination, a lazy conviction that it would be better to postpone the ascent till to-morrow, on the plea, say, of the heat, or on account of the delicate state of your health. But this noontide, as I step ashore and cross the drawbridge, although the heat is intense, and my boots are very new and tight, and pinch my toes most unmercifully, a positive yearning to make the ascent fills my breast. I crane my neck until my equilibrium is jeopardised, and drink in the imagined delights that would await me at the tiny gleaming white tower, with



its signal-mast no larger than a single hair. High aloft, the foliage seems to sway softly, whispering of a charming breeze moving there. How refreshing it looks! Happy sea-gull, that can float to its crest and sink back again at will. Dearly would I delight mine eyes with the marvellous panorama that stretches around on all sides from there! Southward Ceuta, yea and over the "Dark Continent," the mysterious, the yet not wholly explored land of Livingstone, Burton, Stanley, &c.;

northward, the neutral ground, Algeciras, the peninsula of Spain, the rocky ridge, the Queen of Spain's chair, and the far distant mountains of Ronda; eastward, the blue "inland sea," the Mediterranean, the high road to the land of the Rajas; and westward, towards the setting sun, the broad Atlantic that Columbus' caravels once dotted as they set sail not many miles distant hence on their long and glorious voyage.

But wishing to see all this is futile in my case. 'Twould be as idle to hanker after inspecting the galleries or St. Michael's Cave, that, rumour asserts, open into a submarine passage, leading to Africa, extensively utilized by the monkeys as a means of transit between the two continents. A hurried flit along the skirt of the rock to the stairs in the old town must suffice, and to accomplish even this the prescribed hour is yet growing awkwardly short.

But fortunately an opportunity to accomplish this modest journey comfortably presents itself. A pony chaise, with a red and white-striped canopy, resembling a tent-bedstead, is plying for hire as I emerge on to the



EN ROUTE.

white roadway. It is a rare chance. The boy driving is signalled, and receives my explicit directions with an almost English "Yes, sir," and I dive into its shady recess, as, with a crack of a whip, the equipage starts forward in a cloud of dust.

To anyone possessing the martial proclivities of the Grand Duchess of Gerolstein, Gibraltar must be a perfect Elysium. *Ah! que j'aime les militaires*, would find a responsive echo at each progressive step. The rock might be likened to a red ant-hill. The first human being my eyes rested on upon landing was a man of war. I stept into the wicker-work convenience, in the presence of a whole sergeant's-guard under arms. I have been seated but a minute, traversing the barrack-like New Town, when I have rattled by a red-coated sentry in a white helmet, then another pacing the raised path or causeway; and have passed a squad of artillerymen in shirtsleeves; a bone-shaking, teeth-chattering, commissariat waggon; a member of the G.M.P. with his rattan, and a company of infantry returning from rifle practice at the neutral

ground, without mentioning the several and various bronzed warriors cruising about independently. A cursory glance at the Army List will account for this military preponderance in the wayfarers. Four battalions of the line, an equal number of companies of Engineers, and seven batteries of Artillery, quartered within the narrow limits of the rock, cannot fail to influence the character of the locality with the colour of their coats ; and if there be any truth in the aphorism, "The more the merrier," Gibraltar should be a very lively place indeed, although I recollect hearing a divine, who had lived there a considerable time, declare the routine of the place to be monotonous to a degree. But

small part of its attraction. There is also, in addition to a race-course on the isthmus, the garrison library—held to be the largest of its kind out of England—that offers its beneficent attractions to the more scholastically inclined. For those lower in the social scale, to whom, sadly enough, "plenty to drink, and always a-dry," are words of comfort, Gibraltar must assuredly be held high in their estimation. The wine is so cheap that it can be indulged in as freely as malt liquor in their native country. There is, however, alloy in every bliss, and a malady—one peculiar to the locality—known as the rock fever, is their Nemesis.

Nor is to live in Gibraltar to be completely cut-off



DRIVING A BARGAIN.

then, are clergymen ever completely satisfied with their heritage ?

That messieurs the officers of the garrison find the wherewithal to pass a portion of their leisure moments pleasantly is presently demonstrated by overtaking a man struggling to restrain the frantic efforts for freedom of a pack of hounds, just arrived from England and fresh from the confines of shipboard. They are destined for the Calpe hunt, a most popular institution, and largely patronized, not only by the gentlemen of the sword, but by the ladies of the garrison. The country on the mainland round about where the meets take place is considered to have considerable claims to beauty, and the sociable ride thither forms, perhaps, no

from the outer world. A day in Africa, for instance, is quite a popular excursion ; just as we should take the boat to Rosherville and back. Then a line of English vessels leave weekly for Malaga—a delightful six-hours' run up the Mediterranean—and native boats run frequently to Cadiz, thence by rail to Seville and Granada, at which latter place the marvellous Alhambra is visited. There is also another mode of conveyance to the mainland—the *carro de correo*, or mail-cart, but this mode, though perhaps more expeditious, is not nearly such comfortable travelling. I once conversed with a man who had made the journey in this manner, and the description he favoured me with, of his sufferings on the way, was exceedingly distressing. On starting he had

been so packed in the vehicle by the *conductor*, that his knees touched his chin, and the road was not free from inequalities—*enfin* he arrived at the end of his journey with sore bones and bruised flesh, a wiser and a much sadder man. The day following his arrival at his destination he was compelled to pass in bed to recover from his sorry plight, so he considered the saving in time by this route thus effected was unimportant. I should be slow to imagine that many travel by land after a trial trip.

But my postillion is not making the progress that

ing on the roadside—to all appearances a well—and after directing some remarks (presumably to its attendant genii), lowered the aforesaid parcel with a string. My curiosity by this time was so much aroused, that I descended from the vehicle and advanced towards the mysterious opening. I cannot exactly say whether I was surprised or disappointed to find it was merely the courtyard of a house that opened down to the shore, upon whose roof I was standing.

Once again we are in motion. “The Alameda!” now ejaculates my driver, indicating with his whip a vast



STREET SCENE.

could be desired. First it was a trace became unfastened, and he had to dismount to repair the slip; then was encountered a flock of turkeys, driven by a man wielding a wand a good twenty feet in length, that enabled him to correct and direct any wayward bird—of which there were many—back to the right path, without exertion on his part, and a halt was necessary to permit the passage of the recalcitrant feathered horde; while yet another delay when the youthful Jehu again dismounted, this time with a parcel in his hand, with which he advanced to a railed-in open-

level plateau, encircled by cacti, acacias, prickly pear, almond trees, and spiky aloes. I pause in delight. It is like an imagined scene in fairyland, a grand transformation effect in a spectacular production, with its wealth of blooms, its verdure of foliage, its stupendous background, variegated and glowing with colour and sylvan beauty, lacking but a fairy-queen to rise from the centre of the expanse in a glittering casket, wand in hand, to summon attendant gauzy nymphs from the surrounding groves to complete the illusion. As a substitute for the *coryphées*, a row of brightly-coloured figures, garbed

as Moors, are practising some military evolutions in the distance, their white-stockinged legs beating time, as it were, to imaginary music. Of a surety they must be the renowned Forty Thieves; and that redoubtable personage in the white turban in front is their captain, putting them through their paces. Presently, I make no doubt, they will be dismissed, and filed off through a screened door in the mighty rock in rear that opens, perchance, into a second St. Michael's Cave, known to none else, not excepting the monkeys; and with "Close Sesame" all traces of the band and their stronghold will disappear. Unfortunately, for the verisimilitude of the scene, I do not see any Ali Babas peering through the



ON THE NEW MOLE.

foliage, though, as we proceed onwards along the road, we meet plenty of men driving donkeys.

We come upon one at a guard-house on the line of our route; but his animal's panniers are filled with oranges in place of the cut-sticks from the forest. The owner of the shaggy quadruped is an Andalusian, with a stubby chin, and a red handkerchief tied round his head. He has all the keen business qualities of the oriental, added to a verbosity eminently a national attribute.

At this moment, he is engaged upon a commercial negotiation with one of the men composing the guard, that calls forth the employment of the adverted-to gift of

speech to its fullest power. For Private Tommy Atkins wants the value of his money in goods supplied; and upon this point the two are at variance. Juan, the orange vendor, has a very pretty gipsy-faced girl with him, who is referred to as arbitrator. She is addressed by the jocular Britons, who loungingly watch the progress of their comrade's bargaining, as "Polly." Polly merely shows her milk-white teeth and laughs merrily, but declines to express any opinion as to whether her partner is or is not a venerable old cheat, such as Tommy emphatically avers him to be. Epithets reflecting damagingly upon the Spaniard's fair character are being freely bestowed upon his devoted head, when the sentry, who has been an amused spectator of the scene and has not kept his eyes about him as he should, suddenly cries "Guard turn out!" There is a wild stampede into the dark recesses of the guard-house, and next moment they reappear, drawn up in a line, arms presented with a clash, as a portly general officer, with grey whiskers and an eagle eye, comes jingling and creaking by. His horse's hoof, in passing, strikes an orange that had slipped from Private Atkins' grasp at the word of alarm, and sends it rolling down the dusty road. Juan, as he trudges after his donkey, espies it, and furtively transfers it to the panniers. Pretty Esmeralda, I rejoice to say, has an honest little heart, and, observing the act, she fearlessly seizes the misappropriated fruit, and throws it back to its rightful owner. All honour to you, my pretty Gitana. I only hope the venerable cheat—as he has proved himself to be—will not dole out punishment to you for this act of probity.

Again onwards. We have skirted about three-fourths of the face of the rock; past another staring-white guard-house and more staring-white sentry-boxes, doubled the angle of the Moorish wall, and, with a gush of reflected light, we enter the streets of the old town.

There is a quaint mixture of the Spanish and English element, with a decided flavouring of the Moorish in all around. Many of the houses bespeak their oriental origin—flat-roofed edifices with overhanging foliage, rugged white walls and cell-like windows cheek-by-jowl with the more conventional continental style of architecture, with its green venetian shutters and chocolate dadoes. The English element obtrudes itself in the shape of street names of the most pronounced British character, such as, for instance, Victoria Terrace or Nelson Place; the incongruity perhaps heightened by the singular appearance similar legends bear, being executed in crinkly letters of foreign type. It is an anomaly as startling as though an Arab Sheik or a Tunis Dey were introduced by the familiar insular cognomen of Smith or Robinson. Equally incongruous is the intimation over a darkling shop that Ygnacio Almaviva retails first-class ginger beer, and incomparable lemonade, or that Pedro So-and-so has on draught

Bass' pale ale, and some other celebrated firm's double stout.

This incongruity is equally noticeable between the street passengers. Scarlet-coated linesmen, artillery-men in dark blue, green-clad riflemen, Jack Tars in white, and officers of the garrison in *mufti* of the latest West-End fashion, rub shoulders with Spanish *paysanos* from Algeciras of La Linea, in their brown and yellow habiliments, "rock scorpions," as the natives are commonly dubbed, in their washed-out blue boatmen's garb, and stately Moors, olive-complexioned Othellos with coal-black pointed beards and bright turbans, majestic flowing drapery, and, *horribile dictu*, side-spring boots with the tags out, and the elastics in festoons. Salutations of "How's yourself, Jack?" and "Halloa Tommy! how goes it?" intermingle with "Hola, José!" and "Como le va Paquisto?" The *sombrero* that is courteously raised to the dark-eyed sallow wearer of the mantilla is at the next step doffed before a fresh-complexioned girl, in a sailor costume, whose nationality there is no mistaking.

Amid this heterogeneous compound of humanity, my scarlet and white equipage slowly makes its way. A sun-browned youngster in an Eton suit and orthodox collar, squeezing the juice of an orange down his throat and intently staring at some large jars in the window of an English chemist's shop, does not perceive our approach, and is shrilly admonished by my postillion. The Eton boy's reply, which comes as soon as the orange can be dislodged from his mouth, is drowned in the rattle of the wheels, all save the word "scorpion." It is the first and the last discordant demonstration that comes under my notice during my brief visit, between the natives and the imported populace. 'Tis an offensive epithet this by which the people of Gibraltar are designated, and it would be well, in my humble opinion, if it were left and forgotten, and a more euphonious and flattering title substituted.

I am thus wisely soliloquising when the clang in the clock-tower bell falls upon my ear. Twelve o'clock, as I live. No Cinderella ever counted the strokes with

greater trepidation than do I. Without losing a shoe, yet in a flight even more precipitate than that charming heroine's, do I hurry away on my legs, deserting my conveyance and the busy main street, and plunging into a labyrinth of turnings that lead down towards the water's edge. The fears for my timely return that had during my ride been forgotten, return with two-fold force. Breathless and palpitating after numberless inquiries for directions, I arrive at the landing-stairs and scramble into a boat plying for hire. Across the glassy bay lies the object of my solicitude, motionless as the hills beyond, but on the still air is borne the faint rattle of a chain cable that betokens the heaving up of the anchor. Inspired to huge efforts by the sight of a handful of silver, my boatman exerts himself to his utmost, and in the space of a few minutes—hours it seems to me—I have the supreme satisfaction of placing my foot on the bottommost step of the gangway, and of hearing a familiar voice exclaim, "Just in time." Certainly I am just in time, but only just; for I have but reached the deck when the clatter of the cable ceases, and the ponderous engines are set in motion.

Adieu, majestic Calpe! The black smoke is curling from our funnel, and the propeller lashes the limpid water into a plaited band of foam that has grown between us and our late anchorage. The dotted lines of windows on the houses ashore are becoming blurred and indistinct; and the trees on the Alameda melt into the rock. Still further, and the looming mass has contracted into the dimensions of a mere boulder of a uniform fawn colour. The transition is so sudden that I find myself asking, Have I actually in the flesh been ashore; or, the wish being father to the thought, was it but in the spirit dreaming, that I hied thither, as I reclined in a lounging-chair under shelter of the quarter-deck awning? Inadvertently my eyes wander downwards to my feet, and all doubt in a moment is dispelled. My boots are powdered chalk-white with dust.

ARTHUR M. HORWOOD.



ALDERNEY.

By MAJOR-GENERAL "X."



"LET us go to Alderney." These suggestive words were the commencement of a discussion that culminated in a somewhat perilous voyage in that celebrated steamer *Couriers* and subsequent arrival at Alderney.

Bound like a rough uncut gem on the bosom of the English Channel, this tiny island with its five miles of coast, and within measurable distance of Jersey, Guernsey, and Sark, has, on the recommendation of the late Prince Consort and Duke of Wellington, been made, during the last thirty years, a species of Ehrenbreitstein among the group of islands we have enumerated, and its value and strategical importance is said to have been thoroughly appreciated by those eminent men. Possibly, when His Grace the Iron Duke made his suggestive warning, he had noted, and inwardly digested, the value to Prussia of that world-renowned fortress.

Situated on its Gibraltar-like rock, near the mouth of the Moselle, art has added so much to its natural defensive power, that Ehrenbreitstein has become a bulwark of continental fame, invaluable to Germany.

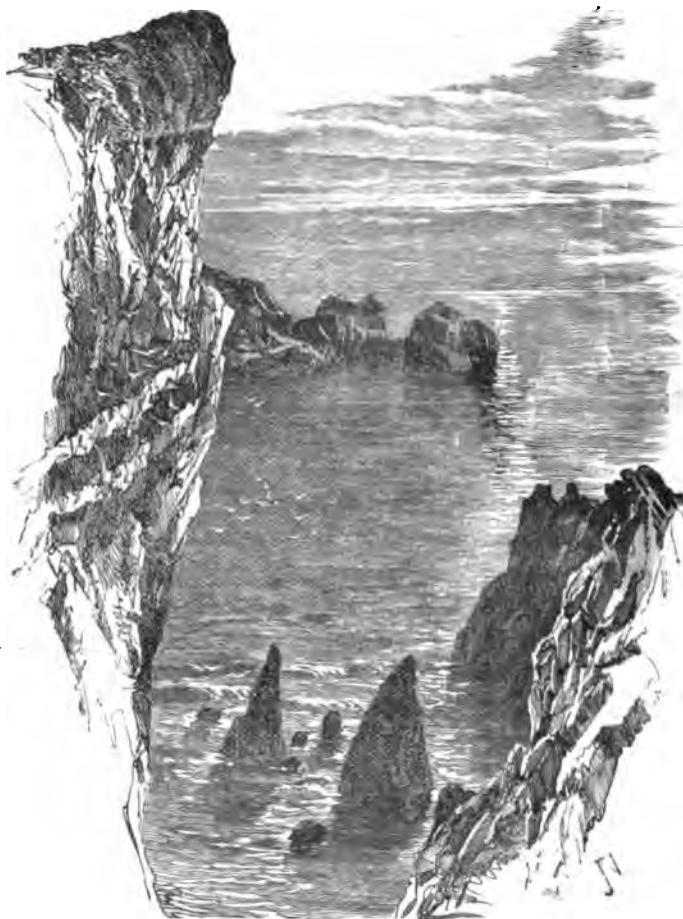
The small open bays of Alderney, and the unsafe anchorage, were natural bars against its usefulness for defensive purposes. The vast array of rocks by which it is more or less encircled, its celebrated race, or unique tidal current, sweeping furiously at the rate of seven or eight knots an hour round the island, sometimes concealing, sometimes exposing to view, dangerous rocks, are an important defensive barrier.

Alderney, about three and three-quarter miles long, and a trifle over a mile wide, is only nine miles distant from the coast of Normandy. Its isolated position, and perhaps other causes, kept it without regular communication with Great Britain for many years. Even now, it only receives its mails and newspapers twice a week, but telegraphic communication has been established. Its reputation as a military station is not a good one, though its climate is equable, and its proximity to the French coast usually ensures good supplies of provisions. When an officer has to be stationed at Alderney, I believe he makes a special study of the best method to shorten his allotted period of service; and requests for leave of absence "on urgent private affairs" are fairly frequent.

There is a well-founded tradition that one gallant lieutenant found this oval island so disagreeable, with its want of communication and limited society, that he

officially applied to be relieved and sent elsewhere, on the ground that any long residence there would be apt to induce him either to commit suicide or take to drink.

It is pleasant to record that the "authorities" were so alive to the danger of thus losing a promising young officer, that his name and original request were favourably considered, and that he was afforded an opportunity of proving his devotion to his Queen and profession at another military station.



THE SOUTH-EAST COAST OF ALDERNEY.

Like Sark, the scenery of Alderney is both striking and unique. To artists and naturalists, and genuine lovers of scenery, I commend the four or five miles of cliffs running round the coast between Fort Essex and Clanque Bay. Masses of sandstone lying in loose blocks, or hanging over the shore in irregular shapes and fantastic forms, sparsely covered in spots by brambles or coarse grass, add to the weird beauty of the surroundings. Between the Admiralty and the late Board of Ordnance, the defective harbour accommodation

and the chain of fortresses have been improved. Forts and batteries encircling the island make it a Lilliput Gibraltar for our Norman Archipelago. The expenditure on the famous breakwater, anchorage, and landing-place, has been large, but of late years it has been reduced to a minimum.

The general idea on which the fortifications have been constructed, seems to be to build batteries or small forts in isolated positions commanding the principal landing places, and forming a powerfully armed fortress as a citadel, in a central position on the island, with the necessary outworks and powder magazines. These



THE "CASQUETS" ROCKS AND LIGHTHOUSE.

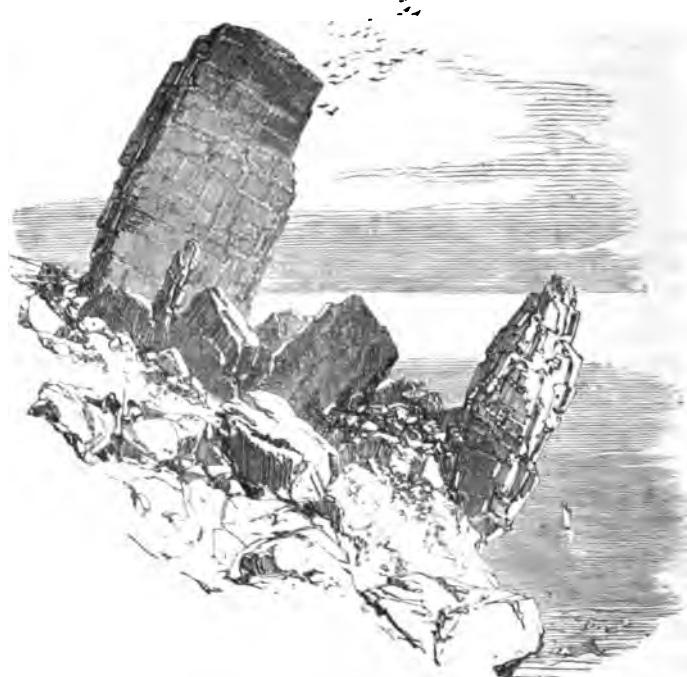
works have been carried out by the corps of Royal Engineers, but for some years past no R.E. officer has resided at Alderney. Mr. C. Evans, Clerk of Works, R.E. Department, had charge of Alderney from 1881 to 1885, while he was stationed at Guernsey, and acted also as Admiralty officer; and under his unceasing supervision work went on like clockwork.

The Admiralty tram or railway across part of the island, has greatly aided the removal of a number of obsolete cannon with which many of the forts and batteries have long been armed, in anticipation of the long delayed heavy rifled artillery armament. The defence of the island has been materially aided by the fact that the cliffs and rocks extending along five or six miles of the coast are steep and inaccessible, so that only the other five or six miles require such effective fortification to prevent an enemy landing and capturing the island.

Alderney, rising in some spots nearly 300 feet above the sea, has on its principal plateau the tiny town of St. Ann, looking towards Guernsey to the south, while the south-west side faces the French coast. The plateau terminates by running in easy slopes towards the sea, and the coast-line is well indented with rocky islets and uneven formidable ledges of granite or sandstone. The British Channel sweeps along the north-west of the island, and a few miles distant are the well-known Casquet Rocks, with the celebrated lighthouse and revolving light perched above them. Between Alderney and the Casquets lie the formidable and dangerous passages of the "Passe du Singe" and the "Passe

d'Orlach," but too crowded with rocks for sensible people to venture into them.

A chain of forts or batteries extends along the south-west of Alderney, the fire of the guns crossing at short range, to protect the shore in the direction of the Swinge, while a second chain defends the island to the eastward. The first fort of the chain is commenced with "Clanque Battery," Fort Tourgis being second in the chain, and about a thousand yards distant—a rocky inhospitable-looking bay lying between them. Fort Grosney occupies the third position, built on a headland of that name, and Forts Doyle and Plat Saline complete the arc of the circle, so that a hostile landing on this part of the coast would have to be seen to be believed. The assailants moreover must reckon with the guns of Fort Doyle, built on a patch of rocks. Fort Albert stands on a high granite rock, which occupies a central position as regards the coast. It may fairly be considered the key of the position, with its outworks, barrack, bomb-proof accommodation and stores for gunpowder and other material of war. The fire of many of the guns crosses with that of another fort about a thousand yards



LA ROCHE PENDANTE, NEAR FORT ESSEX.

to the north-east, mounting over twenty heavy pieces of artillery, so that practically these two forts command an extensive range of sea and coast between the north-east and west points of the compass.

On the east shore, looking towards France, lies Rat Island, communicating with Longy Bay, Alderney, by a causeway usually covered at high-water. It is a strong strategical position, and a powerfully armed little fort has been built there. What with the expanse of

sand encircling it, and the dangerous rocky ledges scattered about, Rat Island Fort seems an effectual protection to that part of the island.

Between Rat Island Fort and the forts to the north of Touraille, lies a chain of Lilliput forts near the edge of the sea, from 400 to 700 yards apart, and mounting from eight to ten cannons, forming an effective protection along that portion of the coast.

Longy Bay recalls to recollection the famous Douglas Court-Martial—nearly forty years ago—which was the subject of much comment at the time. Major Douglas is said to have been accused wrongly of having shot a bullock at Longy wilfully. If I remember rightly, he probably shot the bullock, but *accidentally*, and really knew nothing about it. However, the matter was pressed, and he is said, unfortunately, to have denied shooting at all. The matter did not end auspiciously for him, and the result of the court-martial was decidedly unfavourable.

Braye Harbour, bristling with forts and batteries, was once a somewhat open roadstead, but, by the construction, at an expense of several millions sterling, of the celebrated Admiralty Breakwater, it has become a harbour of our Northern Archipelago.

The breakwater runs out several thousand yards, and some money is annually expended to keep this great public work in repair. Many a good day's fishing can be had without leaving the protection of the breakwater; and during the shooting season, woodcocks *in flocks* may often be found in various spots in the island.

Between Fort Essex and Clanque Bay lie charming picturesque views, dear to the heart of artists, naturalists, or even ordinary tourists.

La Roche Pendante is a unique and remarkable feature. It is an enormous mass of sandstone rock, detached for many feet from the upper cliff, and for the rest of its height, about 33 feet, it hangs over towards the sea. On clear days, France is visible for many miles along the coast, while close at hand are the rocky cliffs and fragmentary islets of Alderney itself.

The little church is a grand specimen of semi-Norman architecture, designed, I believe, by Gilbert Scott. The local traditions declare it to be a thank-offering from one of the Le Mesurier family when his wife presented him with a son and heir.

The cows of Alderney are justly celebrated for the purity of their breed, and the excellent quality and quantity of their milk. The climate is said to be very favourable, and is generally equable; the island is almost innocent of frost, the summers are cool, and the winters mild. There is, however, abundance of rain, and plenty of fogs and wind. Nearly all food is imported, but a good many early potatoes find their way to Covent Garden.

The very early mornings at Alderney, both in summer and autumn, have to be seen and experienced to be fully realised. Clad in russet mantle, Aurora rapidly walks, as it were, over the hills and valleys of Alderney. Then is the time to indulge in the sea-bathing, and to rush from the hotel to the shore, and perhaps find yourself to be a solitary bather, and soon—

From amber shrouds we see the morning rise;
Her rosy hands begin to paint the skies.

Gradually the natives begin to leave their hives, and commence their daily labours.

The rocks and cliffs of the island now present a striking artistic picture, an opportunity seized by the well-known artist, Mr. Brett, when he painted his celebrated picture, "Our Norman Archipelago," amidst the morning loveliness of the adjacent island of Sark.

The picture was, I believe, purchased for a large sum for the Manchester Art Gallery, by the Corporation of Manchester, and forms one of its choicest gems of art.



THE "ORTACH" ROCK, OR "THE HAYSTACK," NEAR ALDERNEY.

As the morning brightens, Nature seems to smile over the land and its encircling mystery of waters—the never slumbering sea.

The fisher boats have probably now quitted the heavy water edge of the ocean, rising and falling close to their bows as they strained at their shore ropes, and are rushing along the familiar sweep of green surges they so well know, to the prolific fishing-grounds at no great distance.

At length all earth and heaven seem to smile, and the sea and land birds rejoice in the sun's approach. An Alderney morning—following, as it were, in the white wake of the morning star—has begun, and if you pass near the cottages you may sniff fumes from breakfast-tables, or catch the rustic burden of Island songs.

There was but one hotel awhile ago, and I believe there is still only that one—large rooms, lofty and fitted, as the house-agents say, with every convenience. Mrs. Scott and her pretty assistant do the honours, and take good care of their guests. An enormous dog generally keeps watch at night, and, I fancy, even by day sleeps with one eye only half shut.

The air of Alderney is decidedly exhilarating, and walks through the Island tend to lighten the heart. The tourist can climb the high hills, and imbibe a famous quantity of the purest air, borne in stiff gusts across the British Channel. Over-worked statesmen or city-toiling men have a chance in Alderney to get rid of their jaded appearance, and cause their flaccid nerves to grow firm. Though the space of Alderney is limited, there is ample space to stray wherever chance or fancy may lead the roving walk "amidst the charms of nature and the year." No long walk can be taken without coming on the grandeur of the ocean and ships—walking as Byron describes, "along the waters like things of life," and seeming to dare the elements to strife.

Along the coast of Alderney the voice of the sea seems ceaseless; sometimes it has a surfy slow melodious sound, at other times its ancient rocks ring with thunders that nothing can tame. It is, I fear, somewhat of a cemetery round Alderney, and many slumber in its ocean bed without monuments; but pleasure can be found, and perhaps rapture also, along the comparatively lonely shores. It has been truly said that each rippling wave lays at the tourist's feet some tribute from the deep, telling of wonders indescribable, and bringing painted shells and specimens of grotesque beings as samples to show that throughout the spacious realms of the sea abundant life is to be found. Evidently numerous creatures exist, perfect in construction, but diversified in shape and attributes. There are rustic pleasures, but absence of fashionable folk, so that the charms of Alderney are not marred by any feeling of constraint.

Not far from Longy, along the south shore, is the remarkable geological phenomenon of projecting headlands of sand-stone with the sea, and then the granite succeeding the sandstone. The granite is sometimes as hard as the best Scotch granite, at other places it is like the "rotten granite," the delight of gold seekers in Australia and the Transvaal.

The "Sister Rocks" are remarkable pyramids of granite. At no great distance, an electric cable has been laid, but the sharp rocks, and constant rubbing, often necessitate repairs.

Whatever Alderney may be or not be to Great Britain, it would be of incalculable value to France, especially now that Cherbourg and Brest are such commanding points for defence and offence on the coast of France. It ought to be, if it is not already, a rendezvous for a powerful iron-clad fleet, which should ride at safety under the shelter of the breakwater, and be able not only to watch the French coast, but, in the event of a Continental war, protect our merchant vessels as they pass along the Channel on their lawful occasions.

A material addition might be made to the defences of Alderney if a canal were cut through the sand-stone and rotten granite from sea to sea, a distance, between the particular points in question, of not more than 900

yards. The expense would not be great, and as the current after the canal was opened, would probably undermine some of the rock, a serious obstacle would be interposed if a foreign foe landed at any other part of the island.

Certain rocks need removing to render Braye Harbour more secure, and advantage should be taken of the heap of rocks running from Cape Grosney in the direction of the Swinge, to throw out another breakwater arm, using the rocks as far as practicable, and making the harbour far more useful and effective as a rendezvous and anchorage than it is at present.

Lawyers have no chance of getting rich in Alderney. Legal proceedings are governed by the old Norman laws,



CONTACT OF SANDSTONE AND GRANITE, SOUTH-EAST COAST OF ALDERNEY.

and at small expense. If a person owes a debt, no costly writ (which is the root of much evil in the United Kingdom) is permitted. A document costing a shilling is made use of, and other expenses are in like proportion. Solicitors and barristers are rolled into one, much to the advantage of the administration of law, and their clients' pockets.

As in Guernsey and Sark, the feudal system, by which the male inhabitants are to be ready as soldiers between the ages of sixteen and sixty, still rules at Alderney.

In the centre of the island lies a mysterious manufactory for the preparation of that dangerous substance "fulminating mercury," which is said not only to be prepared, but also exported in considerable quantities.

The sunsets at Alderney are frequently gloriously beautiful, with their floods of rosy light, passing to a circlet of blazing streaks, studding the horizon.

The nights, especially in summer, are calm and beautiful, and

Deep in ocean sinks the lamp of light,
And draws behind the cloudy veil of night.

A special survey was made of Alderney within the last few years, and after the flat regulation boundary stones had been fixed in their respective positions, profuse compliments were paid by some of the inhabitants, and thanks tendered for providing such excellent seats for weary pedestrians.

OUR INDIAN MILITARY STATIONS.

By JAMES C. DICKINSON, RETIRED STAFF-SURGEON.

DINAPORE, AND THE SIEGE OF ARRAH.



HE first note of rebellion in Bengal and Western Behar was sounded when, on the evening of the 12th of June 1857, Major Macdonald, who commanded the 5th Irregular Cavalry at Rohnee, and, like his comrades at other stations, had never doubted the loyalty of his men, was surprised, with two of his brother officers, by three troopers and cruelly wounded.

At first he would not believe that the traitors belonged to his own regiment; but when, a few days afterwards, he discovered his mistake, he had them arrested, tried, and executed without waiting for orders from Government. Though suffering acutely from his wound, he superintended the execution himself in presence of the whole regiment, silenced a cry for rescue which one of them made to his comrades, by threatening to blow out his brains, and so proved, by his splendid decision, that the unaided moral force of a single Englishman could subdue the brute strength of a thousand mutineers. Subsequent events proved that there was at the time an organized conspiracy in the regiment; that many had been aware of the plot to assassinate the three officers, that they "waited its success to rise."

The presence, however, of an able officer at an isolated station was not enough to secure the safety of the vast Presidency of Bengal. A mutinous incident occurred at Barhampur, which influenced the Government to retain some European Infantry at that station—a measure which would have been wholly unnecessary had the Government taken the precaution to disarm the Native regiments. The danger to which the Bengal Presidency was exposed was differently estimated by the two civilians, upon whom lay the chief burden of providing for its security. These were Frederic Halliday, the Lieutenant-Governor of Bengal, and one of his local representatives, William Tayler, the Commissioner of Patna.

Sir Frederic Halliday was a man of commanding stature, and altogether of a goodly presence; he looked like one born to command. He was not, however, universally respected, even by the members of his own order. Some of them complained that he had treated them with Oriental duplicity; and Dalhousie's private secretary had openly accused him of falsehood, without eliciting any repudiation of the charge. He was a type of civilian which, happily, is now almost extinct. He was of a jealous disposition, mean, pompous, open to flattery,

and an implacable enemy; a better musician than diplomatist. During his tenure of office, Belvedere was celebrated for its concerts, while its society was tinged occasionally with a ray of foreign Bohemianism that startled the exclusive society notions of the heaven-born civilian. A cynical idea even prevailed among some few in Calcutta, that the best fiddlers frequently obtained the best appointments. No doubt he had his good points; but the part he played in the Mutiny showed want of judgment and incapacity, and, as subsequent events proved he was totally in the wrong. It is, however, to be regretted that a statesman of Lord Canning's capacity, and who had been so chary of his confidences, should have so frequently consulted and believed in Mr. Halliday.

Mr. William Tayler was a man of varied accomplishments, had a keen sense of humour and wide sympathies, together with a large fund of common sense. He had studied the native character, as it can only be rightly studied, with large-hearted toleration and catholicity of sentiment. The following extract from one of Mr. Tayler's official papers (quoted by Kaye) serves to show how fully alive he was to the great gulf between the two races. "Separated, as we necessarily are, from the millions around us, by our habits and ideas, we are still further, and without the same necessity, isolated from their hearts by the utter absence of all individual feeling or sympathy. The great mass may see or hear of functionary after functionary coming, going, and holding the destinies of the people in the hollow of their hands, but they seldom, perhaps never, know what it is to feel that the minds of their rulers have ever been directed to understand or sympathise with the great heart that is beating around them. The result is an utter absence of those ties between the governors and the governed, that unbought loyalty which is the strength of kings, and which, with all his faults, the native of India is well capable of feeling." But the tenderness which moved him to make allowance for their weaknesses was balanced by a stern resolution which would never allow them to dispute his supremacy.

In these troublous times, at the civil station of Patna, situated on the right bank of the river Ganges, 380 miles north-west of Calcutta, and ten miles east of the military station of Dinapore, the Mahomedan capital of the country, east of Benares, the strain was most severely felt. The district under Mr. Tayler's charge contained 24,000 square miles, and a population of more

than five millions. Great mercantile interests were in his keeping, for within his Division lay many of the estates of the wealthy indigo-planters of Bengal; and at Patna itself a well-stored opium godown tempted the avarice of the enemy of order. It was also the headquarters of the Wáhábés, the extreme Mahomedan party in India, among whom there were many dangerous and restless spirits secretly longing to overthrow the power of the English and re-establish a Mahomedan dynasty. When the first symptoms of revolt appeared, there was hardly a man in Behar who did not look to Patna as the head-centre of disloyalty. To meet these appalling dangers, Tayler had few resources but the strength of his own character. At the outlying district of Segowlee was quartered the 12th Irregular Cavalry, under Major James Holmes, an officer on whom he could thoroughly rely. But he had not a single European soldier in Patna. The British soldiers at Dinapore, condemned by the Government to the unprofitable task of watching the Sepoy regiments, could give him no help, he could not rely confidently upon his native police. To crown all, there was, a short time before the outbreak of the revolt, a dispute between the Lieutenant-Governor and Tayler on the establishment of an Industrial Institution to be supported by the landholders of the several districts. The general opinion was that Tayler had been in the right, and that the Lieutenant-Governor had treated him badly. Taylor knew that he would have neither encouragement nor support from Halliday. Moreover, it was notorious at Calcutta that the Lieutenant-Governor, fearing, perhaps, lest unpleasant revelations might be made if Tayler were suffered to continue the controversy, had resolved to put an end to it by seizing the first plausible pretext for transferring him to another post (Holmes). The mutinous spirit displayed early in the year by the Sepoys at Barhámpúr, and later by those at Bárakpúr, had not been unnoticed by Mr. Tayler. When, therefore, on the 10th of May, the news of the mutiny revealed to Tayler the extent of the danger which threatened him, he knew that he would have to meet it alone. He never for a moment believed in the "passing and groundless panic" theory of Mr. Beadon. Spurning the timid suggestion of the judge who tried to persuade him that it was best to flee from Patna, he summoned the European inhabitants of the place to deliberate on the means to be adopted to avert the crisis from Patna. Mr. Tayler briefly stated to those present his information, his apprehensions, and his hopes, and then added, if they had confidence in him, he was prepared to assume the entire responsibility, and to act as he might consider necessary. In reply, the Europeans present voted by acclamation confidence in their Commissioner. On the evening of the 7th of June the crisis seemed to arrive; the Dinapore regiments were expected to rise that night. Mr. Tayler determined at once to make of

his own house a fortress for the whole station. The house, however, was garrisoned by the Station Guards, who were all natives, and who, it was discovered, were in league with the disaffected regiments. Mr. Tayler passed a terrible night keeping watch over the safety of his guests; but in the morning, instead of the expected mutineers, who had postponed their rising, there arrived a reinforcement of Sikhs at early dawn, under the command of Captain Rattray. The affairs in the districts were eminently unsatisfactory, and Rattray reported that his men had been constantly insulted on their march by the population, accused of being renegades from their faith, and asked whether they intended to fight for the infidel or their religion. Patna, for the moment, was then safe. On June the 8th, Tayler sent



MAJOR VINCENT EYRE.

to Halliday a full report of the dangers which threatened that city.

The reply which he received a few days later, was in itself enough to stamp the Lieutenant-Governor as unfit for his post; for, in the face of the evidence which Tayler's letters contained, he wrote that "he could not satisfy himself that Patna was in any danger," and that "the mutiny of the Dinapore Sepoys was inconceivable." But Tayler was not to be shaken by the utterances of his chief, notwithstanding the air of infallibility with which they were delivered. He knew the extent of the danger, and believed he could hold Patna in check so long as the Dinapore Sepoys remained quiet, and strongly urged General Lloyd to disarm them.

Major-General Lloyd had passed all his service in a

Sepoy regiment, and had rendered excellent service in his day. He had witnessed the fidelity of the native soldier, under trying and difficult circumstances, and, fortified by the opinion of the several commandants of the regiments, he still clung to his belief in their loyalty. He shut his eyes too closely to the fact that, of the three native regiments under his command, two had already shown a mutinous disposition. On the 2nd of June he had reported to the Government his belief that the regiments would remain quiet "unless some great temptation should assail them"; and five days later he reiterated the same opinion. The Government had then before them this statement, together with the Report of the Commissioner of the danger incurred at Patna on the 7th June. "Having in view," says Kaye, "the composition of the native society at Patna, the isolation of the stations dependent upon it, the vast wealth of the province, the Government must, I think, be held guilty of fatuity in trusting, at such a crisis, to the chance that no great temptation or excitement would assail the Sepoy. With no help from General Lloyd, Mr. Tayler saw that to prevent a disaster his only chance was to resolutely repress the Mahomedans of Patna, and prevent all communication between them and the Dinapore Sepoys. The measures adopted by Tayler for the preservation of order in Patna were as follows: he knew that if he could secure the persons of the three Moulvies who directed the Patna branch of the sect, he would obtain a certain pledge for the good behaviour of their disciples; for no Wáhábée would venture to commit any act that would endanger the safety of his venerated leaders. Accordingly, on the 18th of June, he invited the Moulvies and a few of the most respectable native citizens to his house, to discuss the political situation. At length the conference was over; and all the native guests, except the Moulvies, were told that they might go. Turning to the Moulvies, he informed them that, in the then existing state of affairs, it was necessary that they should remain under supervision. They politely acquiesced. Moulvie Ahmed Oollah joining his palms, said, "Great is your Excellency's kindness, great your wisdom; what you order is the best for your slaves; so shall our enemies be unable to bring false charges against us." Feeling now master of the situation, Tayler next day (June 20th) followed up his victory by the arrest of the patrolling (Darogah) native superintendent of police, who was known to be disaffected, and finally required the citizens to surrender their arms, and to remain in doors after nine o'clock at night—an order which was obeyed without a murmur. Tayler's repressive measures have been harshly criticised, but, as Malleson says, "the exigencies of a great crisis justify exceptional acts in the interests of the national safety." In Calcutta, men asked each other in amazement how it was

that, while from other stations news of massacre and rebellion was constantly arriving, from Patna came week after week the news that tranquillity was maintained, and British prestige vindicated.* Perhaps even Halliday could have answered, Because Patna is ruled by William Tayler. On the 3rd July, however, a large body of Mahomedans, bearing aloft the green flag and summoning others to join them by the beating of drums, marched through the city and attacked the house of a Roman Catholic priest. The Sikhs were at once ordered out, and when Rattray with his men came down upon them, the victory of the mob was at an end. On the following day, a number of notorious malcontents were arrested, among them Peer Ali, a Mahomedan bookseller in whose house was found treasonable correspondence, and it was said that this man had shot down Dr. Lyall with his own hand. He was tried, hanged and his property confiscated. All the time that Tayler was working heart and soul for the safety of his division, and his people's lives, Halliday was carping at his measures, and warning him against doing anything illegal or irregular. The littleness of the man's mind appeared in such words as these: "It is impossible that you should have anything to do of greater importance than keeping the Government informed of your proceedings."†

After the anti-Mahomedan demonstrations above recorded, comparative quiet reigned at Patna. But in the European community in Calcutta, whose interests in Behar were so great, to many of whom it was a question of wealth or poverty, to those on the spot of death or existence, the burning question of the hour was, Shall the Dinapore Sepoys be disarmed? They had no confidence in the poor old General at Dinapore, well knowing that he had only promised that his men would remain quiet, "if some great temptation did not assail them." The Governor-General shifted the responsibility which naturally belonged to himself, on to the shoulders of General Lloyd, well-knowing that he would never have the courage to use his own discretion, or to employ the newly arrived reinforcements to deprive his regiments of the power of doing mischief.‡ The merchants of Calcutta, hearing of this, sent a deputation to implore Lord Canning to consider what vast commercial interests were imperilled by the threatening attitude of the regiments at Dinapore, and to urge him to secure the safety of those interests once for all, and establish public confidence by commanding Lloyd to disarm. He curtly refused their request, firstly, because there was no apparent necessity for disarming; and secondly, because the 5th Fusiliers must not be delayed on their way to join

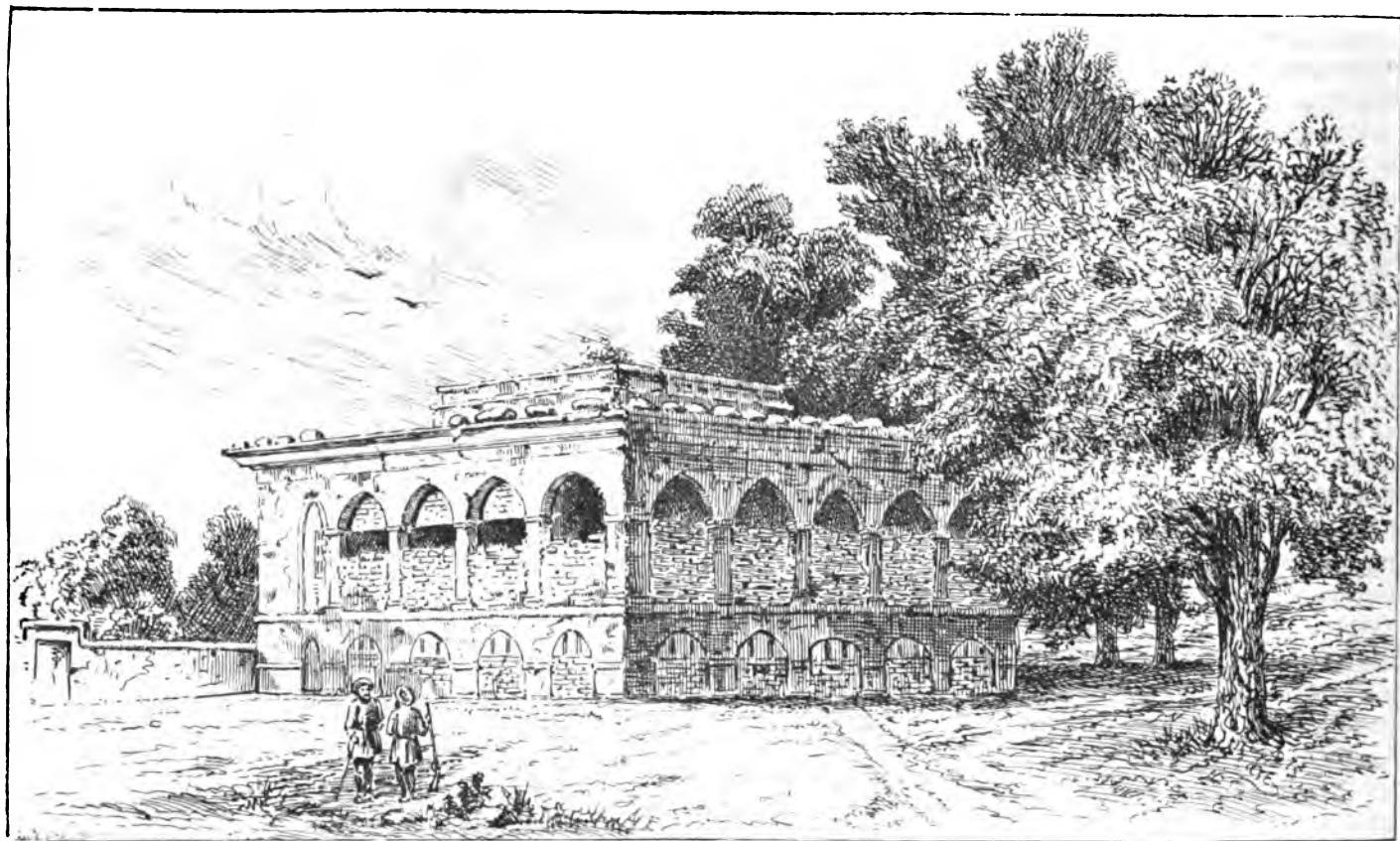
* *Patna Crisis*, pp. 44-51. *Red Pamphlet*, p. 174.

† *Correspondence, etc.*, p. 14.

‡ The Commander-in-Chief's letter to Lloyd, written at Canning's request, will be found in *Parl. Papers*, vol. xlivi (1857-58), p. 108.

Havelock. Major-General Lloyd decided not to disarm the Sepoys, and when, on the 22nd of July, the 5th Fusiliers arrived off Dinapore, he did not order them to disembark; he did not even detain them. After they had left, he regretted his decision. Two days later, two companies of the 37th Regiment arrived, awaiting his commands. His remorse was strong enough to make him order their disembarkation; but it was too weak to make him turn them to good account. Even now, with these new troops at his disposal, he could not persuade himself to direct the necessary measure. The responsibility thrust upon him by the Government pressed him down, and he fell back upon the fatal folly of a half-meas-

they crossed the lines, there was a great commotion among the Sepoys of the 7th and 8th Regiments; but the 40th appears to have been quiescent on the side of mutiny, if not active on that of order and discipline. The 7th Native Infantry showed the greatest excitement. Those who were being paraded for guard summoned their comrades to join them in preventing the carrying off of the caps, and cried out for the murder of the Sahibs. But their officers went among them and pacified them, and for the moment the difficulty was tided over; the cap-cases were brought safely into the square, and the parade was dismissed. The officers went home to their breakfasts, and the General betook himself on



THE HOUSE AT ARRAH.

sure—a measure which, he believed, would render the Sepoys powerless, and yet save their honour. He decided to leave them their percussion muskets, but to deprive them of their percussion caps! At the appointed time the parade was held. The 10th Foot, two companies of the 37th Regiment, and the company of the European artillery were drawn up on the morning of the 25th of July, in the great barrack square, and two bullock-carts were sent to the magazines to bring the percussion caps into the English quarter. Between the magazine and the square were the Sepoy lines; so the laden carts which told the story of the present disgrace and, perhaps the coming destruction of the native regiments, had to pass beneath their eyes. As

board a steamer, which had that morning arrived, to luncheon, leaving orders to the commandants of the native regiments to hold a second parade of the Sepoys in the afternoon, while the European troops would be busy eating their dinners, and then require them to surrender the contents of the cap-cases which they carried on their persons. The parade was held. The Sepoys were ordered to empty their pouches. They answered the demand by firing upon their officers. The noise warned the European soldiers and the General that mutiny had broken out. The assembly was sounded. There were sufficient European troops to have at once suppressed it. There was the 10th Regiment, under Lieut.-Colonel Fenwick, two companies of

the 37th, and the artillery under Lieut.-Colonel Huyshe. But there was no one to command. At last, however, two staff officers, who had been lunching with the General, hurried up from the steamer, bringing his orders for an advance. It was then too late for any attempt to be made to retrieve the fortunes of the day. The mutineers quietly started for Arrah, and were unopposed. When the European troops reached the native lines, they found that the Sepoys had already disappeared. They set fire to their huts, and then halted for orders. No orders came. The Major-General was still on board the steamer, and no one cared to usurp his powers. On the same day, another terrible tragedy occurred. The 12th Irregulars at Segowlee, catching the infection of disloyalty from the Dinapore mutineers, on the evening of the 25th of July, four of the troopers suddenly attacked Major Holmes and his wife, a daughter of the heroic Sale, and killed them. General Lloyd now resolved to entrench his position at Dinapore, and leave the surrounding country to the fate which he had brought upon it; "thus," as Holmes writes, "imitating with the closest fidelity, the line of conduct which Hewitt had followed after the the mutiny of the 10th of May. In many respects, indeed, this shameful story of the mutiny at Dinapore resembles the story of the mutiny at Meerut. And for the weakness of Lloyd, as for the weakness of Hewitt, the only excuse that can be pleaded is the infirmity of old age. Major-General Lloyd failed to take advantage of his opportunity of repairing every mistake, of atoning for all shortcomings, by detaching a strong force in pursuit of the mutineers, and thought of nothing but entrenching himself at Dinapore." There was a remarkable man in Behar, Kunwer Singh by name, who, though older than Lloyd, still retained the vigour of his youth, a Rajpoot chieftain of ancient lineage, who had been made an enemy of the English rule by the action of our revenue system. The law courts decided at the time of the Mutiny a land case against him, and Government at the same time withdrew its support from the management of his case. He, therefore, resolved to co-operate with the Sepoys with all his power. He was a brave soldier, possessed of real generalship and excellent strategy.

Mr. Tayler deprecated the idea of the General intrenching himself at Dinapore, and implored him to pursue the rebels immediately. Suddenly the alarming news arrived that they had already crossed the Saone, and were actually besieging Arrah. Lloyd had now no choice but to accept Tayler's advice.

Arrah, the chief town of the most turbulent district in the Division, was situated twenty-five miles west of Dinapore. The European residents had been duly warned of their danger, and Tayler, with rare foresight, had already sent fifty of Rattray's Sikhs to help them in case of an attack. The whole garrison only numbered sixty-eight.

The fortress was nothing but a small building originally intended for a billiard-room, belonging to Vicars Boyle, the railway engineer, who, regardless of the jeers of friends, had fortified and provisioned it to resist the attack which he had all along deemed possible. His dwelling-house was about seventy yards off; and, to deprive the enemy of the cover which it would have afforded, he had demolished its front parapet. On the evening of the 26th, the Europeans, after writing letters to their friends, went into the billiard-room and bricked themselves up. Boyle, whose foresight had rescued the others from instant destruction, was naturally one of the leading spirits in the crisis; and associated with him was Herwald Wake, who assumed command of the Sikhs. Next morning (July 27th) the sixty-eight were standing at their posts behind their improvised defences, and when the mutineers advanced to the attack, they were hurled back in astonishment and discomfiture by a well-directed fire. The mutineers then took every advantage of cover, as anyone who ventured into the open was sure to be struck down by a bullet from the garrison, who aimed securely from behind the sand-bags which they had thrown up on the roof. Baffled in fair fight, the assailants began to try a succession of foul stratagems. They strove to corrupt the fidelity of the Sikhs by offers of a share in the plunder; but the Sikhs, confident in the resources of their commandant, were proof against this argument. Then the rebels tried to suffocate the garrison by setting on fire a heap of chillies outside the walls, but a favourable wind arose and blew the stifling smoke away. Finally, Kunwer Singh unearthed two guns, but, having no round shot, was obliged to use the brass castors belonging to the pianos and sofas in Boyle's house, as projectiles. But there was an enemy more formidable than the Sepoy battalions or Kunwer Singh. That enemy was Time. Wake, with his little band, knew that if help did not come soon, time must conquer them, for their provisions were beginning to run short. At midnight on the 29th they heard the sound of distant firing in the direction of the Saone. This firing, sad to relate, brought no relief to Arrah. The relieving party sent from Dinapore, under Captain Dunbar, had fallen into an ambuscade, and but a wretched remnant of the party that, flushed with the thought of victory, had left Dinapore on that July morning, returned to the nullah which they had crossed by the light of the moon. When the steamer came to beside the Hospital at Dinapore, a fearful and painful scene ensued. There was such a wail from the women, as those who heard it can never cease to remember. Some beat their breasts and tore their hair in the wild excitement of their grief, and it is said that if General Lloyd had appeared amongst them at that moment, they would have torn him to pieces (Kaye). We pass from this dark page of history to the little party of English residents at Arrah, who were still

bravely holding out. Listening eagerly from the roof of Boyle's house to the sound of firing on the night of the 29th, they soon heard it die away, and knew that no help had yet come. Their provisions had nearly gone; but, when the besiegers were asleep, they sallied forth and brought in four sheep as the reward of their daring. Thirst began to afflict them, but the Sikhs dug a well and procured an abundance of good water. Ammunition threatened to fail; but Boyle had laid in a supply of lead, and new bullets were cast. Mining was repelled by countermining. Thus four more days passed away. On the morning of the 2nd of August, the sound of distant firing once more threw the garrison into suspense, and this time, too, the suspense did not last long.

Major Vincent Eyre, a brave and heroic artillery officer, started, on the 10th of July, with his battery from Calcutta to join the British force at Allahabad. Touching at Dinapore on the 25th, he, of course, heard of the mutiny which had taken place. Re-embarking next morning, he reached Buxar on the 28th, and there learnt that the Dinapore mutineers were besieging Arrah. On the following day, 160 men of the 5th Fusiliers arrived from Calcutta, and he asked their commander, Captain L'Estrange, to join him in the expedition for the relief of Arrah. L'Estrange promptly agreed, bargaining only that Eyre should take upon himself the entire responsibility of the expedition, and on the 30th of July started to relieve Arrah. Marching all through the evening and night, and halting in the daytime, they reached the village of Gujrajunge, close to Arrah, on the 1st of August. Hardly had Eyre broken up his encampment the following morning, when the bugles were heard sounding the assembly a short distance ahead. Evidently the enemy had come out from Arrah to dispute his advance. They were soon discerned lining a large wood, which extended in front of the British force, and on both its flanks. Eyre at once ordered his guns to open fire on their front and flanks, and boldly pushed forward his men in skirmishing order. Under the pressure of this fire, the enemy abandoned his flank movement, and fell back on the position in front. It was the object of Eyre to force this. He then massed his guns and opened a concentrated fire on the enemy's centre. This had the effect of driving them from the direct path. Eyre then rapidly pushed on his guns, covering their advance by a continuous fire from the Enfield rifles of his infantry, and succeeded in making way through the wood before the enemy could again close his divided wings. The rebels were momentarily checked, for the British, moving out of the further side of the wood, were pro-

tected from attack by inundated rice fields, across which the baffled enemy could only open a distant fire. But, two miles farther down, the road was intersected by a river, on the opposite side of which lay a village called Beebeegunge, and the rebels now hastened to seize this point, hoping to render Eyre's farther advance impossible, for they had broken down the bridge and thrown up breastworks to command the approaches. Eyre, however, pushed on. Unable to find a ford, he began a flank march to the right, towards the railway embankment, along which a road ran direct to Arrah, and, to mask this movement, caused his artillery at the same time to play upon the village. Close to the embankment, however, there was another wood, and the rebels now hastened to occupy it, in the hope of intercepting Eyre before he could gain the road. Then began a desperate race between the two armies. The rebels won, and when Eyre's force came up, opened fire upon it from behind the shelter of the trees. Thus attacked in front, the British were sorely harassed by a simultaneous fire, which Kunwer Singh's levies poured into their rear. Eyre's position was now becoming critical. During the hour which this combat lasted, the enemy twice charged our guns, exposed by the necessity of keeping the infantry in skirmishing order, but each time they were driven back by discharges of grape. The Fusiliers were now losing ground; the position was becoming critical. Eyre upon this resolved to solve the question with the bayonet. The order was promptly carried out by L'Estrange and his men, who, hastily closing, rushed forward with a cheer, cleared the deep stream—here confined within narrow limits—at a bound, drove their four thousand enemies before them in utter rout; the guns opened out on the retreating masses, and made the victory complete. Meanwhile the garrison of Arrah had been listening anxiously to the sound of battle. In the afternoon they saw the beaten rebels come hurrying up, collect their property, and go away. They knew that their deliverance had been wrought, that the relief of the garrison of Arrah was an accomplished fact, brought about, as Malleson writes, by a servant who "had assumed the responsibility of turning from his ordered course, of turning others from their ordered course, to endeavour, with a force inferior in infantry by more than one-half to that which had already been ingloriously beaten back, to rescue his countrymen from destruction, to save Behar and India from an impending great calamity." Such a man was Vincent Eyre.

J. C. D. J.

THE BATTLES OF THE BRITISH ARMY INSCRIBED ON THE REGIMENTAL COLOURS.

By ROBERT O'BYRNE, F.R.G.S.

No 5.—THE BATTLE OF DETTINGEN.



RITISH REGIMENTS ENGAGED.—*Cavalry*: The 1st and 2nd Life Guards; the Royal Horse Guards; the 1st (the King's), and the 7th (The Princess Royal's), Dragoon Guards; the 1st (Royal), the 2nd (Royal Scots Greys), and the 6th (Inniskilling) Dragoons; the 3rd (the King's Own), the 4th (the Queen's Own), and the 7th (the Queen's Own), Hussars.

Infantry: The Grenadier Guards; the Coldstream Guards; the Scots Guards; the 3rd (East Kent) Buffs; the 8th (the King's); the 11th (North Devonshire); the 12th (East Suffolk); the 13th (1st Somersetshire and Prince Albert's Light Infantry); the 20th (East Devonshire); the 21st (Royal Scots Fusiliers); the 23rd (Royal Welsh Fusiliers); the 31st (Huntingdonshire); the 32nd (the Duke of Cornwall's Light Infantry); the 33rd (the Duke of Wellington's); the 37th (North Hampshire); and the 39th (Dorsetshire) Regiments of the Line.

Having completed the series of Marlborough's splendid victories, inscribed on the regimental colours of the British army, the next distinguished action so inscribed, is that of the Battle of Dettingen.

The political causes which led to this action may be thus briefly stated. England, accustomed to consider the equilibrium of the continental states as the guarantee of her own grandeur, naturally espoused the cause of Maria Theresa; while it was quite as natural that the King of England, as Elector of Hanover, should be ready to enforce its propriety. But there was another motive at this time still more powerful, namely, the war which had recently broken out between England and Spain; for it could not be expected that, in a continental war in which the latter was one of the belligerents, England would omit any opportunity that offered of weakening that Power. Yet as long as Walpole was the directing minister, the King restricted himself to negotiations and subsidies. But when Walpole and his peace policy were superseded by the accession to office of Lord Carteret, the cause of Maria Theresa was sustained by the arms of England, and by larger subsidies; while the King of Naples was forced by an English fleet to the declaration of neutrality.

Already in 1741 a considerable British force had been ordered to hold itself in readiness for foreign service; but it was not till the spring of 1742, after the change of Ministry already alluded to had taken place, that it was finally determined to send a force to the Continent, in the interest of the Austrian cause, and under the command of Field-Marshal the Earl of Stair: a force which, consisting of the regiments enumerated above, and mustering 16,000 men, rendezvoused at Dieghem in the plains of Brussels, during the summer of 1742.

The French Ministry, eager to signalize itself by a vigorous prosecution of the war, and excited by the unfavourable news that came from Germany, collected a large army, under Marshal the Duke of Noailles, who had already distinguished himself in the Spanish campaign, to support their other forces in the Empire. These forces, first commanded by Maillebois, and afterwards by De Broglie, had ceased to threaten Hanover, by their march for the relief of Prague. They had afterwards wintered in Northern Bavaria; and it was through their diversion, that the German Emperor, Charles VII., was enabled to re-enter his capital. But in the spring of 1743 he was again defeated by the Austrians, and once more driven from his hereditary estates; De Broglie being intent only on his own security, and restrained by his instructions from hazarding a battle. The unfortunate Emperor, whose exalted rank served but to sharpen the sting of his calamities, and to make them more conspicuous and deplorable, sought shelter in the free city of Frankfort; a sovereign without any states to rule, nay, even without any revenues to maintain him. De Broglie, on his part, retreated in confusion from Bavaria, harassed by the Austrian cavalry, and sustaining heavy losses, until, on the banks of the Neckar, he received a reinforcement of 12,000 man from Noailles, and again attempted to keep Prince Charles of Lorraine in check.

During this time, the British troops were also advancing into Germany, having begun their march from Flanders, at the end of February. They were joined on their march by some Austrian regiments, headed by the Duke D'Aremberg, and by 6,000 Hanoverians in British pay, who had wintered in the Bishoprick of Liege. But, so tardy was their march, that it was the middle of May

before they crossed the Rhine, and fixed their station at Hockst, between Mayence and Frankfort. Here Lord Stair determined to await the junction of the Hanoverians, and also of the same number of Hessian mercenaries, who had been employed in garrisoning the Flemish fortresses, but who were now relieved by an equal body of Dutch troops, and left at liberty to join the main army. Even without any fresh accessions, however, Lord Stair could muster at Hockst nearly 40,000 soldiers, and might easily have seized the Emperor at Frankfort, had not the neutrality of that free city been scrupulously respected by both parties in this contest, or to speak more truly, had not the seizure of the Emperor promised but small advantage.

The Marshal De Noailles, on his part, whose army, even after the detachment sent to De Broglie, amounted to 60,000 men, likewise passed the Rhine, and approached the Maine on the southern bank, as the British had done on the northern. The two camps were not more than four leagues distant from each other. Yet still, amidst the hostile manifestations, and an impending battle, the two nations nominally remained at peace, and only acted as auxiliaries; there was still a British ambassador at Paris, and a French in London. "A ridiculous situation!" writes Horace Walpole; "we have the name of war with Spain without the war, and war with France without the name."

In the manœuvres that ensued, Lord Stair, whose military genius, never very bright, was rusted with age, appears to have committed blunders upon blunders. Having first determined to await the arrival of the Hanoverians and Hessians, he suddenly altered his intentions, recalled the detachments which he had sent across the Maine, and advanced up the course of that river on the right bank, with the view of drawing supplies from Franconia, and of communicating with the Austrian forces. He reached Aschaffenburg on the 16th of June, closely followed and completely out-generalled by Noailles. The French commander took up a strong position near Gross Ostheim, while his detachments occupied the principal fords and passes on both the Upper and the Lower Maine, so that the English found themselves cut off both from their own magazines at Hanau, and from the expected Franconian supplies. Moreover, the duties and details of our commissariat appear in that age to have been ill-understood or grossly mismanaged.

Under these circumstances, when, on the 19th, King George arrived on the field from Hanover, with Lord Carteret and the Duke of Cumberland, he found affairs in a most critical condition; the soldiers on half rations, the horses pining for want of forage; Stair and Aremberg at daggers drawn; and the army reduced to 37,000 men, and cooped up in a narrow valley that runs between Mount Spessart and the Maine, and extends

along that river from the town of Aschaffenburg to the large village of Dettingen; while in sight appeared a far superior force of French, ably commanded and well supplied, and in confident expectation that the Allies must either surrender as prisoners of war, or be cut to pieces in their retreat. The expected Hanoverians and Hessians, it appeared, had nearly reached Hanau, but so far from being able to advance and join, were themselves in peril of being taken by the French. Still, under every disadvantage and danger, the soldiers were full of spirits and eager to fight, and the presence of their King became a further incentive to their valour.

After repeated councils of war, the only measure that seemed practicable was to fall back upon the magazines and reinforcements at Hanau, and this resolution was



KING GEORGE II.

hastened by so utter a failure of forage, that had they remained but two days longer, they must have sacrificed their horses. The movement, however, was neither safe nor easy in the face of a numerically superior enemy, quick at discovering and prompt in preventing the design. At the first signs of the intended retreat, Noailles immediately converted his front into a rear position, and adjourned on Selingensbadt, threw two bridges over the Maine, and sent his nephew, the Duke De Grammont, with 23,000 men, across the river to secure the defile of Dettingen, through which the allies must march. These troops were accordingly drawn up on very strong ground; while batteries were also raised along the opposite bank of the Maine, and these precau-

tions were the more dangerous, because, in a great measure, unknown to the English, who still believed the principal force of Noailles to be on the other side of Aschaffenburg.

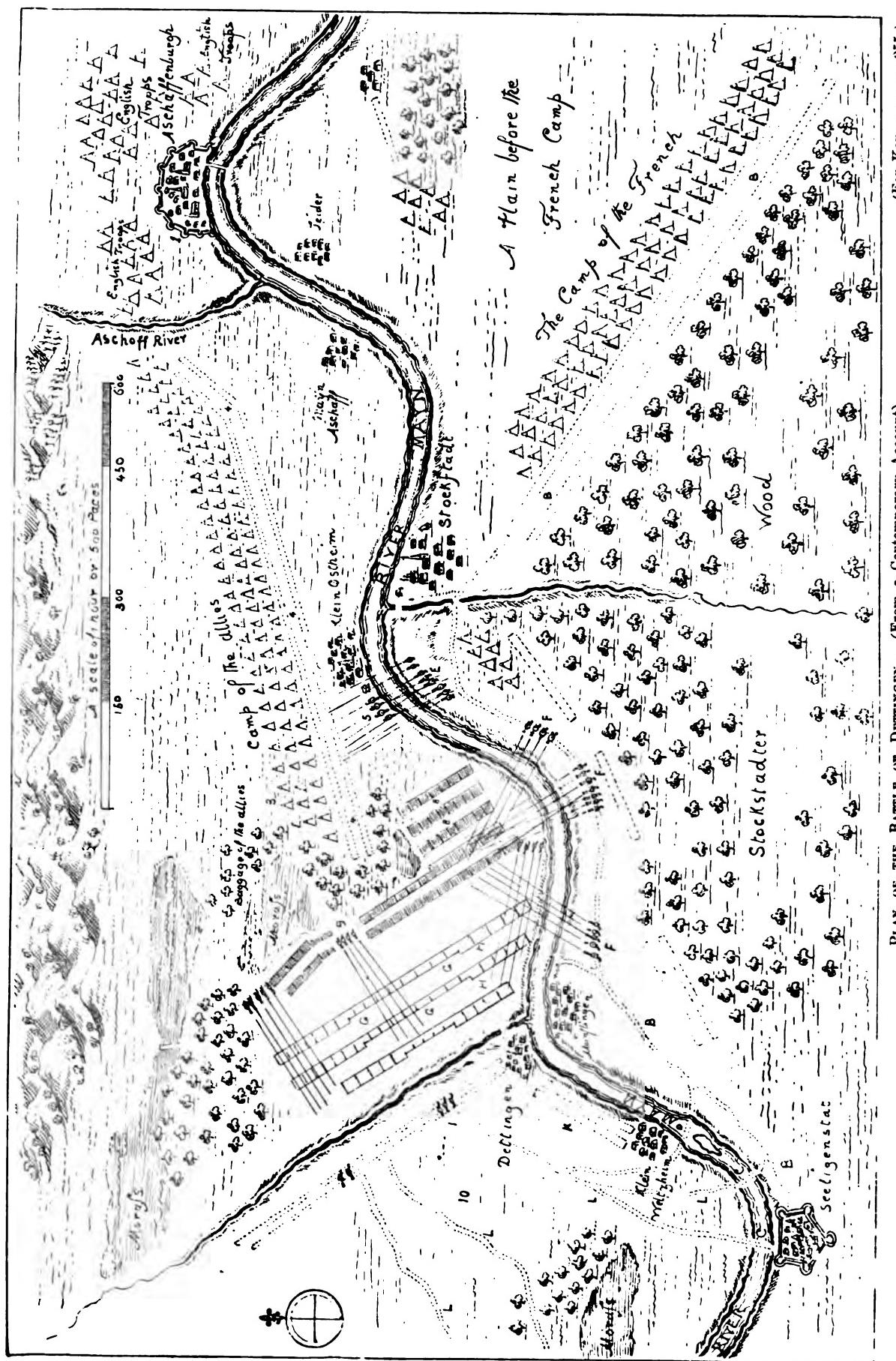
Before daybreak on the morning of the 27th of June, the Allies struck their tents and began their march towards Dettingen in two columns. The King himself commanded the rear-guard, which, from the ignorance of Noailles' movements, was considered the post of danger. But when they found their advanced posts repulsed from Dettingen, and beheld the French forces pouring over the bridge of the Maine, they perceived that their front was chiefly threatened. Their columns were immediately halted, and the King, riding to the first ranks, drew up the army in order, the infantry in front, and the cavalry in rear; its right extending to the slopes of the Spessart, and its left to the river. Their only hope lay in cutting their way through the French lines, yet these were strong as nature and skill could make them. The village of Dettingen, occupied by Grammont, was covered by a morass and ravine, the bed of a small rivulet; and further reinforcements to support him were already in motion from the army of Noailles. The batteries on the other side of the Maine began to play upon the British flank; behind them Aschaffenburg, which they had left, was already taken by a French division of 12,000 men. Thus were they completely enclosed and hemmed in, and our military fame—the lives and liberties of our soldiers—nay, even of our King—seemed already within our enemy's grasp.

Happily at this decisive moment Marshal Noailles left his post in the front and passed to the other bank of the Maine, to give some further directions in that quarter. During his absence, the impetuous courage of the nephew marred the uncle's skilful policy. Grammont, burning to engage his adversaries, and believing that the force before him was only part of their army, which he might easily exterminate, ordered his troops to cross the ravine, thus quitting his vantage-ground, and giving the Allies battle on equal terms. By this movement also, the batteries on the other side of the Maine, that were already mowing whole ranks of English, were compelled to suspend their fire, lest it should strike their countrymen as well as their enemies. As the French approached, the horse of George the Second, frightened with the noise, ran away with His Majesty, and had nearly carried him into the midst of the enemy's lines, but was fortunately stopped in time. The King then dismounted, and put himself at the head of the British and Hanoverian infantry at the right, waving his sword, and addressing the British in these terms:—"Now, boys, at 'em, for the honour of England. Fire and behave with your wonted valour, and the French will soon run!" The Duke of Cumberland in like manner, as Major-General, commanded the first line

on the left. Yet, notwithstanding the bravery of their royal leaders and their own, the troops were thrown into some disorder by the first impetuous charge of the French chivalry. The King, however, with admirable coolness and courage, made every exertion to retrieve the slight confusion, while the battle rapidly spread from flank to flank and became general along the line. The Duke of Cumberland, like his father, appeared in the hottest of the fire, displayed the highest intrepidity, and even when wounded in the leg, refused to quit the field.

Noailles, who, from the other side of the river, had beheld the first motion of his troops with astonishment and grief, hastened over with all possible speed, to give the needful directions; but on his arrival he found the tide of battle turned. The British and Hanoverians vied with each other in the most determined spirit, while the French, though in no way inferior in gallantry, did not on this occasion display an equal steadiness, and were not, like their opponents, inspirited by the presence and valorous exertions of their knightly King. The conduct of George II. in this conflict deserves the highest encomiums; and it was undoubtedly through him, and through his son, far more than any of the generals, that the day was won. A dense mass of infantry, formed and led by His Majesty in person, broke and scattered the enemy, whom they found exhausted by their own brave but imprudent onset. So dreadful a slaughter ensued in the French ranks, that Noailles, despairing of the day, and anxious only to prevent a further havoc of his men, gave the signal to retreat across the Maine. But this retreat speedily became a rout. Many of the French were cut down by their pursuers before they could reach the bridges; and the latter becoming choked with the multitude of fugitives, many more plunged into the river and were drowned. Others, again, turning in the opposite direction, and throwing down their arms, endeavoured to ascend the mountains to the right, and were taken prisoners without resistance. The fighting continued till about four in the afternoon, and the King remained on the field of battle till ten at night.

The loss of the French in killed and wounded was computed at 6,000, including a large proportion of their officers, whose headlong valour strove during the engagement to repair the error it had caused at the commencement. It seemed only surprising how so many brave men could ever, under any circumstances, be defeated. The Allies on their part suffered severely, their loss being scarcely less than 3,000. Both their marshals, D'Aremberg and Stair, though eclipsed by their royal chief, well deserved that chief's praise for their intrepidity; the former was wounded in the shoulder, and Stair was eager to pursue the French in their retreat. But considering that so large a proportion of Noailles's army had not been engaged and was still fresh; that the Allies were



PLAN OF THE BATTLE OF DETHINGEN. (From a Contemporaneous Account.)

(For Key see page 255.)

exhausted from their hard won victory, and from their insufficient supplies—so insufficient that one of the officers writes: “We had neither victuals, drink, nor tents to live in after the work was done”—the rash proposal of Stair was wisely overruled, and the troops, after a few hours’ halt, continued their march to Hanau, where lay their magazines and confederates. They were, however, compelled by reason of their bitter want of means, to leave their wounded to the mercy of the French Commander, who treated them with signal generosity.

Such was the Battle of Dettingen, the last in which a King of England has appeared at the head of his troops. In its circumstances it might, perhaps, not inaptly be compared to the battle fought by Napoleon in 1813, against the Bavarians on the neighbouring ground of Hanau, except that on this last occasion the position of the French was reversed, and it was they who had to force instead of to intercept a passage. It may also be observed that at Dettingen, superior as was the army of Noailles, yet from the absence of French divisions at Aschaffenburg, and on the other side of the Maine, the numbers actually were considerable on the side of the Allies; and, notwithstanding the glory which this battle sheds upon both British and Hanoverians, it must be owned that the good conduct of the troops redeemed the blunders of their General.

This article concludes with the following statement of the losses in this action of each of the British regiments engaged:—

The Brigade of Life and Horse Guards, under the command of the Earl of Crawford, posted near the centre of the line, the hottest place of all, had Colonel the Earl of Albemarle, Lieut.-Colonel Lamolonier, Major Jackson, Captain Willes, and Lieutenant and Adjutant Elliott wounded, besides 5 troopers killed and a great number wounded, many seriously; the 1st (King's) Dragoon Guards had killed, Captain Meriden, Lieutenant Draper, and Cornet Aldcroft, with 8 troopers, and 20 horses; wounded, Major Carr, Captains Saurin and Smith, and Lieutenant Wallis, 2 quartermasters, 28 troopers, and 24 horses; the 7th (The Princess Royal's) Dragoon Guards had killed, Quartermaster Jackson, 21 troopers, and 85 horses; wounded, its Colonel, Major-Gen. Ligonier, his younger brother, Lieut.-Colonel Ligonier, Captains Stuart and Robinson, Lieutenant Cholmondeley, Cornet Richardson, one quartermaster, 30 troopers, and 27 horses; the 1st (Royal) Dragoons had killed and wounded 6 troopers and 34 horses; the 2nd (Royal Scots Grey) Dragoons had besides 4 horses killed, Lieutenant Preston, a few troopers, and 2 horses wounded; the 6th (Inneskilling) Dragoons lost 2 troopers and 18 horses killed, and 9 horses wounded. There are no returns of the casualties occurring in the 3rd (The King's Own) and the 4th (The Queen's Own) Hussars. The 7th (The Queen's Own)

Hussars had Lieutenant Falconer, Cornet Hobey, one sergeant, 10 troopers, and 22 horses killed, and Lieutenant Frazer, Cornet St. Leger (mortally), one quartermaster, 2 sergeants, 15 troopers, and 18 horses wounded.

The Grenadier, Coldstream, and Scots Guards, from having formed part of the rear-guard in expectation of an attack from Aschaffenburg, and from not arriving in time to join in the first attack against the enemy, suffered no loss. The 3rd (East Kent) Buffs had 3 rank and file killed and 3 wounded. The 8th (the King's) Regt. has 1 sergeant, 5 rank and file, killed; Major Barry died two days after the battle from wounds received; Lieut.-Colonel Keithley and Lieutenant Robinson, 2 sergeants and 28 rank and file were wounded. The 11th (North Devonshire) Regt. had 11 rank and file killed; and Major Greenwood, Captain Lee, and 28 rank and file wounded. The 12th (East Suffolk) Regt. had Captain Phillips, Lieutenant Munro, and 27 rank and file killed; and Captain Campbell, Lieutenant Williams, Ensign Townshend, 3 sergeants, 2 drummers, and 60 rank and file wounded; this regiment sustained the severest loss. The 13th (1st Somersetshire) Regt. had 21 rank and file killed; Ensigns Ogilvie and Gray, 1 drummer, and 29 rank and file wounded. The 20th (East Devonshire) Regt. had but a few rank and file killed and wounded, the exact numbers are not known. The 21st (Royal Scots Fusiliers) Regt. had Lieutenant Young, 1 sergeant and 35 rank and file killed; Lieutenant Levingstone, 1 sergeant, 2 drummers, and 53 rank and file wounded; this regiment followed closely on the heels of the 12th in the amount of its casualties. The 23rd (Royal Welsh Fusiliers) Regt. lost 15 rank and file killed; Colonel Peers (mortally), Lieutenant Price, and 27 rank and file. There are no records accessible of the casualties which occurred in the 33rd (the Duke of Wellington's), the 37th (the North Hampshire), and the 39th (the Dorsetshire) regiments.

The following is a description of the Plan we give of the Battle of Dettingen, showing the encampment of the respective armies before the day of action, their march to the field of battle, the order of their drawing up for the engagement, and the manner of the French army's flight over the Maine after they were routed, with a scale of pace, done after a draught made at Frankfort.

REFERENCES TO THE ALLIED ARMY.

- 1 The head-quarters of His Britannic Majesty.
- 2 The head-quarters of the Duke of Aremberg.
- 3 The camp of the Allies.
- 4 The march of the Allies in two columns on the morning of the battle.
- 5 The Batteries opposed to those which the French erected on the other side of the Maine to gall the allied troops while marching. About eight o'clock in the morning the French began to play on our rear, led by His Majesty and composed of English and Hanoverian troops.

6 The Wood where the Allies formed their order of battle.

7 The Allies, order of battle.

8 Hanoverian Cavalry.

9 Batteries of the Allies.

10 Place where His Majesty took refreshment after the action.

N.B.—After the defeat of the French, they lined the banks on each side of the rivulet, at 11, to favour the retreat of their men over the bridge, the ground below the bank at 12.12 was morassy, and the bank so high that we could only just perceive their hats; these circumstances were so favourable to them as to prevent our pursuit.

REFERENCES TO THE FRENCH ARMY.

A The French head-quarters.

B The march of the French to pass the Maine.

C French bridges on which their infantry passed over the Maine.

D French Cavalry fording through the Maine.

E French Batteries playing on the Allies, on their march.

F Three French Batteries flanking the Allies when drawn up in order of battle.

G The French order of battle.

H The Household Troops of France.

I Front formed by the French after they were beaten out of the field of battle.

K Another front formed to cover their retreat.

L The retreat of the French over the Maine.

M Place where many of the French retreated through the water during the battle.

NAVAL AND MILITARY NOTES AND QUERIES.

GERMANY'S VIEW OF OUR NAVY.—In his *Die Weltstellung Englands*, Major Otto Wachs, of the Prussian Army, a well-known German military writer, who has devoted special attention to the English Army and Navy, observes, in his strictures on England's fleet:—“Besides securing the mother country, the fleet has to protect more than 5,000 merchant vessels (Sir Charles Nugent makes it nearer 20,000) on all parts of the globe. It has to be the string on which the separate heads of her Colonies are strung; or, in other words, every war-ship of the English fleet is a link of the great iron chain which binds the immense Empire together. This fleet has founded the British Empire, and till now sustained it. The English fleet is, however, relatively weaker than it was; for, although her men-of-war are nearly double those of France, the number of armoured ships in both navies is nearly equal. Steam has deprived England of her superiority in seamanship. Since the ship has become a machine, the engineer replaces the seaman. Sea tactics and sea strategy have changed; but to what no one knows, for want of practical experience.” The torpedo, Major Wachs calls the assassin of the sea, but thinks the French over-rate it. Speed is now much more in request than thickness of armour-plate. There was a time when it was England's boast that her navy was more than a match for the navies of all other nations combined; but that time is past, and if France and England are not already evenly balanced, it is certain that the fleet of the French Republic, combined with that of Germany or Italy, would be at least equal, probably superior, to England's naval force. Italy has, or had till lately, three mightier ironclads, and Germany had more torpedo boats, than England. Ships of war are now built by Germany for foreign states, and equipped in German arsenals. England, in spite of her coal, is being beaten by Germany and France in the manufacture of armour

and the building of ships. Major Wachs then alludes to our bending bayonets and jamming cartridges, and points out that Krupp can make better guns than the Royal foundry at Woolwich. Foreigners may well doubt if England still rules the sea. “But England herself—despite her admirals and generals, and an utter misconception of facts which prove that the Empire's rule over the waves is a thing of the past—still places unlimited confidence in her fleet. The strategical problem for England's fleet is how to keep open her numerous lines of communication, and yet to be in commanding strength at the important naval points and stretches of coast. The separation of her fleet into independent squadrons weakens her power of concentration and of undertaking combined operations.” Major Wachs points to the unprotected state of many of our coaling-stations, and to the absence of dockyards in the southern hemisphere—both as indispensable to a fleet as reserves and supplies are to an army. He considers the German naval regulation as to the formation of reserve divisions of seamen in Kiel and Wilhelmshaven very superior to any corresponding regulation in the English Navy. Vice-Admiral Aube, French Minister of Marine, has expressed an opinion that twenty fast well-found cruisers would suffice to ruin England's commerce. Gougeara would strike a death-blow at England in the Mediterranean, by cutting her line of communication with India. Did not Napoleon, with a heavy fleet of transports, succeed in evading the falcon eye of Nelson? Gabriel Charmes, again, recommends sending out cruisers to prey on England's commerce in every sea, and ultimately starve the country out. France, as stated by her admirals in the Chamber of Deputies, is seriously undertaking to make her fleet equal to that of England. What, asks Major Wachs, would happen if England's navy were defeated? if England found her confidence in “the silver streak” as a protection an idle dream?

R. O'BYRNE.

EUROPE IN ARMS.

No. X.—THE SPANISH ARMY.

By C. J. L'ESTRANGE.



REQUENT reorganization is, unfortunately, a sign of weakness rather than strength; or the Spanish army would occupy a far higher place among the armies of Europe than it actually does. During the last ten years, almost every arm of the service has undergone several modifications, and the conditions of recruiting have been twice altered. It would seem, however, that the Spanish military authorities are at last making an effort to be consistent in their changes, and to render the military organization of the Peninsula somewhat more stable than it has hitherto been. Since 1886, large sums have been voted for naval and military purposes, and a programme has been sketched out which, if it is firmly adhered to, will once more give Spain a place, although but a second-rate one, in the councils of Europe. The great weakness of the Spanish army is, however, one that cannot be met by votes of money. Spain is pre-eminently the land of military pronunciamientos. From an army which has become the tool of faction, which is split up into cliques and parties, and in which even the officers are separated by social and political barriers, little can be expected in the field.

Recruiting.

The system by which the Spanish army is recruited dates in the main from the year 1882, but it was modified in several important points in 1885. The reforms inaugurated rather than completed by these two measures are due to the energy and patriotic far-sightedness of the late Alfonso XII. Universal military service on the German principle is no more welcome to the "classes" of Spain than to those of Holland or Belgium, and the exertions of the late king led only to the introduction of a half-hearted measure, by which all are declared liable for service, while those who are able may purchase exemption. The imperfections of the present system are generally recognized in Spain, and the complete adoption of the principle of universal liability without exemption is only a matter of time.

Every Spanish citizen capable of bearing arms is liable for twelve years' service in the army or navy.

During this period, the conscripts may belong to two or more of the following categories:—

1. Inscribed on the lists of the recruiting officers.
2. With the Colours.
3. In the Reserve of the Active Army, or on leave.
4. In the dépôts.
5. In the second Reserve.

All Spaniards, on attaining their nineteenth year, enter into the first of these categories, unless they are exempted for family or other reasons. They are called up for duty with the Colours when their services are required, usually in the course of their twentieth year. The term of service with the Colours is legally three years, but the men are usually dismissed on leave at the expiration of their second year of service, and in some cases before. Men dismissed in this way enter the Reserve of the Active Army, which is thus formed of young troops, all of whom have served one, two, or three years with the Colours. These men are still retained on the registers of their regiments, which they would be required to join at a moment's notice on mobilization. Men who have served with the Colours and three or four years in the Reserve of the Active Army, pass at the end of their sixth year into the Second Reserve for the remainder of the twelve years' term. The six contingents forming this Reserve may be called up for an annual training not exceeding one month; but owing to financial embarrassments, the authorities have not hitherto availed themselves of this provision.

The contingent of men who are required to join the Colours is fixed annually by the Cortes, but it falls far short of the number who are available for service. The finances of the country are at present unable to bear the expense of training the whole of the annual contingent. In many cases, the men are not called to the Colours until a considerable part of their term has expired, and they are drafted into the Reserve in the ordinary course at the end of their second year of nominal service.

All men who are not called to the Colours are inscribed on the lists of the dépôt battalions, to which they belong for three years. These men, in common with those of the Reserve, may be called out for one

month's annual training ; but here, too, the state of the exchequer has prevented the due enforcement of legal provisions. The dépôt battalions consist, therefore, exclusively of untrained men, and it is probable that in the event of war, the Government would avail itself of the provision by which it is authorized to incorporate the men of this category in existing battalions. As independent corps, they would be wholly useless, while, as a means of filling gaps in the active army, they might be of considerable value.

Men of the Reserve of the Active Army, recruits inscribed on the lists of the recruiting dépôts, men actually serving with the Colours, and those conditionally exempted, are neither allowed to marry nor to take Holy Orders, but they are permitted to fill public offices which do not prejudice the due fulfilment of their military duties. These regulations do not apply to the men forming the dépôt battalions (except the two youngest categories, who would first be called upon to fill gaps in the field army), nor to the Second Reserve. In time of war, ecclesiastics liable for service would do duty as chaplains.

The alcaldes of the ayuntamientos or municipalities of Spain are required to prepare an annual list of all Spanish citizens within their jurisdiction who have completed their nineteenth year. In order to facilitate the labours of these officials, the law of July 1885 enacts that the parents or guardians of every Spaniard shall apply for his inscription on the recruiting lists as soon as he becomes liable for service. Failure to comply with this regulation entails a fine of from £10 to £40. Moreover, no Spaniard who has completed his fifteenth year is permitted to leave the country unless he deposits a sum of £80 as a guarantee that he will duly fulfil his obligations to the State when called upon for service. Spaniards who have left the country before their fifteenth year are required to deposit the same sum on arriving at this age if they desire to retain their nationality. If, after payment of these sums, the recruit presents himself for service, the caution-money is returned to him. If not, he does not necessarily forfeit his rights of citizenship, but the £80 are regarded as the price of his exemption from service, and theoretically, a substitute is provided in his place.

These regulations were rendered necessary by the extensive emigration to which the adoption of the principle of general liability gave rise, and which deprived the army of a considerable number of recruits annually. During recent years, there has been a large and continuous exodus from the southern provinces of Spain to Algeria, and from the northern provinces to America; and this emigration, owing to the comparatively small increase of population in Spain, exercised a very injurious effect on the well-being of the kingdom at large. The evasion of military service is, in fact,

regarded so seriously in Spain, that on the conviction of an *insoumis*, the informer has the privilege of exempting from service any conscript, either with the Colours or on the recruiting lists.

The preparation of the annual lists by the alcalde is commenced on 1st January, when a notice is posted calling upon all who have reached the prescribed age to send in their names, or to appear and state their claims for exemption. Men who have joined the army or navy as volunteers or substitutes are, *ipso facto*, excluded from the annual list. The list is revised and checked by the municipal councillors of the ayuntamientos, who are held personally responsible for its accuracy, and are liable to



INFANTRY OF THE LINE.

a fine of from £4 to £8 for each omission. On a fixed day the councillors summon the conscripts or their guardians for the verification of the list, and claims of exemption are then considered and decided upon by the vote of the majority. If the conscript is dissatisfied with the decision of this body, he may carry his claim before the Provincial Commission, and, finally, before the Minister of the Interior, whose judgment is decisive.

The exceptions to the rule of universal liability in the Spanish army are extremely numerous. All men who are obviously suffering from physical infirmity are excused from service without further examination. Others, whose complaints are not evident to the unpractised eye, undergo a medical examination, and if found unfit are struck off the lists. In cases of doubt, the de-

cision rests with the Provincial Council. All men below 4 ft. 10 $\frac{1}{2}$ in. in height, the pupils of ecclesiastical seminaries, of military schools or academies, army surgeons, naval engineers, and the miners of Almaden del Azogue, Almadenejos, Alamillo, and Gargantiel, in the province of Ciudad Real, and of Chillon, in the province of Almeria, are totally exempted from service in the ranks. Ecclesiastics who re-enter civil life before the expiration of their 30th year become liable for service with the contingent of the year in which their secession from the Church takes place. In order to prevent an abuse of the privileges granted to the members of ecclesiastical orders, the superiors of all religious communities who enjoy these exemptions are required to furnish the alcaldes with an annual list of the changes which have taken place in the *personnel* of their establishments during the year.

The miners mentioned above are obliged, during the period of their exemption from military service, to work at least fifty days per annum at their registered employment, or to produce a medical certificate showing that they are incapacitated through illness contracted in the mines. If they fail to observe these regulations, they are placed on the list of recruits, and incorporated in the contingent of the year in which their non-compliance occurs. Exemptions of this kind were far more numerous a few years ago than at present. It was proposed, indeed, at one time, to completely abolish these privileges, and their restriction to five mines in the reorganization of the army shows that the anomaly is fully recognized by the Spanish Legislature. These exemptions are, in fact, unique, and it is difficult now to find any sufficient justification for their continuance.

Officers of the army and navy who retire before the expiration of their 32nd year are liable to be called upon by the Minister of War to fill suitable posts in the event of mobilization.

Criminals are not, as in most other countries, exempted from military service. If they leave prison before their 40th year, they are liable to be incorporated in the disciplinary battalion at Melilla if their number in the lottery requires them to serve in Spain, or in the disciplinary brigade in Cuba if they are drawn for Colonial service.

Exemption from service in time of peace is granted extensively on domestic grounds. If, for instance, the *inscrit* is the only or chief support of his family, or is the brother of a man actually serving in the ranks, he is not called upon for service with the Colours except in the event of mobilization.

The failure of a recruit to present himself before the Municipal Council for examination is punished by inscription on the lists of the Colonial army, by the loss of the right to find a substitute, or to pay for exemption. The only circumstances which excuse non-attendance

are imprisonment or forcible detention, service with the Colours at the time of the examination, illness, or absence from the kingdom.

The ayuntamiento of each Commune, after concluding their annual labours, send in a report to the Provincial Council of the number of recruits in their jurisdiction fit for service with the Colours or in the Reserve; and all these men are required to attend for inspection and registration in the capital of the province. The men who are passed for service in the Reserve are inscribed on the lists of the dépôt battalions, and dismissed without further delay to their homes. Those who are passed as fit for active service with the Colours take part in the annual



BUGLER OF RIFLES.

lot-drawing, which is conducted in the presence of a Commission, consisting of the commandant of the district, a magistrate, the alcalde, and syndic of the Commune, and the commanding officers of the Reserve and Dépôt battalions. The names and numbers are placed in separate urns, and drawn by two children under ten years of age. One of the children draws a name and hands it to the alcalde; the other draws a number and passes it to the Commandant of the district. Both name and number are then publicly announced, and this process is repeated until all the recruits are accounted for. Those who obtain low numbers are drafted into the Colonial army. Of the remainder, a certain number,

fixed annually, are called upon for home service, and the rest are allowed to return home on leave. The recruits are not, as a rule, called up for service immediately after the lottery. They are dismissed to their homes and held at the disposal of the Minister of War, who may call upon them to join their regiments at a moment's notice.

The number of men required for service with the Colours is announced by a Royal Warrant on 20th February of each year. The Minister of War then calculates the contingents to be furnished by each district, on the basis of the number of men reported as fit for service. Thus, if the total number of men reported for service is 100,000, and the number necessary to fill the gaps of the Active Army is 40,000, each district would send to the Colours two-fifths of its available recruits. The contingent required for Colonial service is next decided upon, and these are drawn, as before stated, in the first place, from those who failed to present themselves before the recruiting commissions, and, secondly, from those who obtain low numbers in the lottery.

The law of 1885 retains, contrary to the opinion of many Spaniards, the provision of 1882, that by payment of a sum of £60 or £80, recruits drawn for home or colonial service respectively may purchase exemption from duty with the Colours in time of peace. The sums obtained in this way form a fund from which the bounties paid to non-commissioned officers and privates on re-engagement are drawn. Substitution in the case of men drawn for the home army is now permitted only between brothers, but recruits liable for colonial service are allowed to find substitutes among natives of their own districts, who must be fit for service, and under thirty-five years of age. Should a substitute desert, the conscript whom he replaces is bound to provide a second, or to purchase exemption from service within six months.

The penalties for self-mutilation are extremely severe, and so devised that the offence shall defeat its own object. The conscript who attempts to evade service by this means is first imprisoned, and then drafted either into the disciplinary companies at Ceuta or into the Colonial army.

Officials who connive at the escape of a conscript from service are liable to imprisonment and heavy fines.

Considerable bounties are granted to men who re-engage for service in the army after serving their term with the Colours, or who voluntarily enlist for service in the Colonial army. Owing, however, to the unpopularity of the Colonial army, it has been found almost impossible to provide an adequate number of trained men for service over sea. For a re-engagement of four years, a bounty of about £50 is granted; but even this

sum is insufficient to entice back men who have once experienced the hardships of the Spanish Colonial service.

Territorial Districts.

For purposes of military administration, Spain and the Balearic and Canary Islands are divided into 14 military districts—New Castile, Catalonia, Andalusia, Valencia, Galicia, Arragon, Granada, Old Castile, Estremadura, Navarre, Burgos, the Basque Provinces, and the Balearic and Canary Islands. Each of these is nominally commanded by a captain-general, in reality by a lieutenant-general. They are sub-divided for recruiting purposes into 140 sub-districts, corresponding to the 140 battalions of Line and Rifles of the Active Army. These sub-districts, numbered 1—140 are so mapped out that the number of inhabitants is almost the same in each, while they correspond very closely to the political divisions of the country. The recruiting operations of each sub-district are carried on at the principal town; and the bureaux are responsible not only for the enrolment of the recruits, but for the due registration of the Reservists and their despatch to their respective regiments on mobilization.

Each sub-district is administered by a colonel, who is charged with the supervision of the recruiting *bureaux*, and the command of the dépôt and reserve cadres. In the event of war, the colonels in charge of sub-districts bearing odd numbers are placed in command of the half brigade formed from the battalion of their own sub-district, and that of the sub-district next in order. The officers commanding sub-districts with even numbers remain at home and take over, in addition to their own districts, those with odd numbers immediately preceding.

For recruiting the Cavalry, the kingdom is divided into 28 districts, each of which maintains the cadre of a Reserve regiment corresponding to one of the 28 regiments of the Active Army. There are no dépôt cadres for the cavalry. All men belonging to this category would join the infantry in the event of mobilization.

For the artillery, seven recruiting zones were established in 1885.

The Military Hierarchy.

The hierarchy of officers in the Spanish army is composed as follows:—

Alferez, corresponding to Sub-Lieutenant.

Teniente, " Lieutenant.

Capitan, " Captain.

Comandante, " Major.

Teniente-Coronel, corresponding to Lieut.-Colonel.

Coronel, corresponding to Colonel.

Brigadier, " Brigadier-General.

Mariscal de Campo,	corresponding to Major-General.
Teniente-General,	" Lieut.-General.
Capitan-General,	" General, or Field-Marshal.

Lieutenant-Generals, when commanding military districts, have the honorary rank of Captain-General. The Director-Generals of the various arms of the service are, as a rule, Lieutenant-Generals; and these officers not only inspect the troops under their charge, but transact all administrative business connected with them. The officers corresponding to Major-Generals of the English service comprise the military Governors of the forty-nine provinces and the commandants of the first-class fortresses. Lieutenant-Colonels in the Spanish service command battalions. This rank is not, as in Germany, a mere stepping stone from a majority to a colonelcy.

The Spanish army suffers from an excess of officers, especially in the regimental ranks. Two companies, squadrons, or batteries, are commanded by a major, one company, squadron, or battery, by a captain. Each company in addition has 5 subaltern officers, 3 lieutenants, and 2 sub-lieutenants, besides several supernumerary officers, whose presence is explained by the overcrowded state of the war schools, and by the extensive promotion of non-commissioned officers. When the regimental effective is reduced, as it frequently is, to 400, the ratio of officers to men rises to 1:6; and among the six not less than two are non-commissioned officers. An attempt is now being made to reduce this excess by the rapid promotion of young officers without, however, the usual increase of pay, and by drafting a large number after a short period of service into the Reserve. These officers remain on half-pay until they are called upon for active service. Their maintenance is necessarily an enormous drain upon the resources of an extremely poor country, and necessitates great economy in other directions.

The Spanish *corps d'officiers* is divided into three sharply defined classes. The officers of the artillery and engineers, drawn exclusively from the educated and propertied classes, form practically a separate and independent corps, and enjoy privileges denied to the other arms of the service. Cadets training for these two branches are promoted while yet in the War School to the rank of sub-lieutenant, and they join the colours as lieutenants. In the case of the engineers, a short period of service is followed by another step in rank. It is, therefore, not uncommon in the Spanish service to find a captain of engineers only twenty-three or twenty-four years of age, a thing unknown in other Continental armies.

The second-class of Spanish officers are those who enter the cavalry and infantry from the Toledo Academy. Their social position is, as a rule, inferior to that of the

officers of artillery and engineers; but the gulf between what may be called the first and second classes is far less than between the second and third. The latter, by far the most numerous of the three, are promoted from the ranks, and occupy a position somewhat similar to that of the inferior officers in the Russian army. The result of this cleavage is that the *corps d'officiers* of each infantry and cavalry regiment is broken up into two sharply defined sections, whose social position, education, and habits of life, are wholly distinct. The evils of the system are generally recognized and deplored in Spain;



COLONEL OF LANCERS.

but although the practice of promoting a fixed proportion of non-commissioned officers is scarcely more than thirty years old, it has become so integral a part of the military organization of the country that even the *élite* of the Spanish officers despair of any serious reform in this direction.

In the infantry and cavalry, promotion goes, as a rule, by seniority, except in the case of distinguished service in the field; in the artillery and engineers no selection of any kind is practised. The system of brevet promo-

tion is, however, very widely applied in Spain. An officer promoted in this way may receive one or two steps in advance of his regimental rank. In neither event, however, does he derive any immediate advantage from his promotion. In the first case (*grado*) he fulfils the duties and draws the pay due to his regimental rank; but, when promoted to the substantive rank which he has previously held by brevet, his commission in that rank is antedated, and he takes seniority from the date of his brevet promotion. In the second case (*sobre-grado*) the promotion is purely honorary, and does not convey any extra privileges. The officer, although promoted two steps in advance of his regimental rank, is not entitled to antedate his commission until he is promoted to the intervening rank. In this case his position is the same as that of the *grado*.

In 1884 a provision was made for officers whom ill-health renders unfit for active service, but who are yet able to fill administrative posts. The reserve of officers, as they are called, are attached to the infantry dépôt battalions, or the recruiting offices; but they cannot, of course, be included among the combatant elements of the army. The real Reserve, as the term is understood in other armies, would be drawn from the large body of officers on the half-pay list.

Officers who are granted leave of absence from their corps draw only half-pay, and if their leave is extended, pay ceases during the extension. Officers on sick leave draw, at first, full pay; but if an extension is granted, they are allowed only half pay. Leave of absence is obtained from the Captain General of the district in which the regiment is quartered, but no officer can travel abroad without the permission of the King. The number of officers absent at any one time on leave is limited to six per battalion.

There are only two grades of non-commissioned officers in the Spanish army—sergeants and sergeant-majors. Below these, but without non-commissioned rank, are two grades of corporals—first and second class. The corporals and sergeants are promoted from the ranks, and within their own corps. The sergeants and sergeant-majors, are, as a rule, promoted by seniority.

Non-commissioned officers who are not promoted pass into the Reserve at the expiration of their term of service with the Colours.

The Spanish soldier has been remarkable throughout military history for his courage in action, and his endurance under the hardships of campaigning. The Spanish infantry was regarded before Rocroy as almost invincible, and although since then the military record of the Peninsula has not been brilliant, much is attributable to defective organization and official incompetence: It is probable that, on any future battle-fields, the Spanish troops will worthily emulate the devotion

of their ancestors, who fought under Cortes and Pizarro, under Alba and Alexander Farnese.

The requirements of the Spanish soldier in the field have been briefly summed up by a German observer as bread, wine, and tobacco. With these three commodities, and with very little of them, the Spanish soldier is content.

The first men in the annual contingent are selected for the artillery and engineers. The cavalry are also, for the most part, heavy men, although their horses are by no means strongly built.



LANCERS.

Training.

The preliminary training of the recruits in Spain extends over about six weeks—an unusually short period, even on the Continent. The company exercises, on which so much stress is laid in Germany, are performed in a perfunctory manner. They form a part, and by no means a principal one, in the battalion and regimental training. The recruits are incorporated in January; at the end of April the battalion and regimental training is concluded; and during the sum-

mer months the recruits are occupied solely in individual exercises and in musketry instruction, which is hurriedly and carelessly imparted during a few weeks in the early hours of the morning. "The field exercises," says a writer in the *Jahrbücher der deutschen Armee und Marine*, "consist solely in skirmishing and empty movements, called by the Spaniards, manœuvres. Sham fights are very seldom held, and marching out is equally rare. Company field exercises are almost unknown." The officers are accustomed to reply to criticisms on this subject, that the Spaniard is a born soldier, and that he is a master of field exercises from his cradle. The Spanish soldier, no doubt, shows a peculiar aptitude for fighting in extended order; but this fact does not warrant a general neglect of a branch of training which is now regarded as an indispensable preparation for modern warfare.

The General and Garrison Staffs.

The Spanish General Staff forms a separate and independent corps, recruited exclusively from the Staff Academy at Madrid. Its establishment is 5 brigadier-generals, 13 colonels, 17 lieutenant-colonels, 25 majors, and 40 lieutenants, but its average strength is raised by supernumeraries to about 150 officers of all ranks. The duties of the staff officers, both in peace and war, are complex and various. In peace they are attached either to the Director-General of the General Staff, or to the Captain Generals of the various districts. In war, they are subordinated to the generals commanding *corps d'armée*, divisions or brigades, and, in addition to their ordinary duties, may be called upon in action to take the command of a body of troops. Officers enter as lieutenants, and may be promoted within the corps to the rank of Brigadier-General.

A large garrison staff is maintained for service in the numerous fortresses of the kingdom. The garrisons are divided into five classes, commanded respectively by major-generals, brigadiers, colonels, lieutenant-colonels or majors, captains, and lieutenants.

Infantry.

The infantry of the Spanish army consists of 60 regiments of the Line, and 20 battalions of Rifles. The Line regiments, numbered from 1 to 60, have each in addition to this numerical distinction a special title, usually the name of a province, city, or district. The Rifle battalions, numbered from 1 to 20, have also special territorial titles peculiar to each. On mobilization, they would be united two by two to form half brigades.

A regiment of the Line consists of two battalions, each battalion comprising five companies—four active, and one dépôt. The company in its turn is divided into four sections, and has a nominal peace strength of

1 captain, 2 lieutenants, 2 sub-lieutenants, 1 sergeant-major, 3 sergeants, 10 corporals, 4 buglers, and 200 privates. This effective would be increased in the event of war to 1 captain, 2 lieutenants, 3 sub-lieutenants, 1 sergeant-major, 3 sergeants, 14 corporals, 4 buglers, and 228 privates—in all 256.

Cadres of the reserve and dépôt battalions which would be formed in war from the 140 territorial districts, are maintained in peace. Their strength varies between 20 and 25 officers. In war the reserve battalions would be raised to an effective of 4 companies of 250 men each, the dépôt battalions to 4 companies of about 300 men.

The total strength of the Spanish infantry on a war-footing will be as follows in 1890 or 1891, when the Army Reorganization Bill of 1882 bears its full fruits:

140 active battalions	140,000 men
140 reserve , , , ,	140,000 ,
35 dépôt battalions (140 companies) of the Active Army	28,000 ,
35 dépôt battalions (140 companies) of the Reserve	28,000 ,
140 dépôt battalions (2nd Reserve)	168,000 ,
<hr/>	
490 battalions	504,000 ,

The infantry of the active army and reserve are armed with the Remington rifle, model 1871, of 11 mm. bore. The weight of the rifle is 9 lbs. 1 oz., its length 4 ft. 3 $\frac{1}{4}$ in. The weapon is rifled in six grooves, and has an effective range of a mile, and a maximum range at 30° elevation of about 3,300 yards. The initial velocity is 1,364 ft. per second with a charge of 0.18 oz. and a bullet of 0.882 oz. The cartridge is 3 in. long and weighs 1 $\frac{1}{2}$ oz. The bayonet used with the Remington rifle is triangular in section, 1 ft. 9 $\frac{1}{2}$ in. long, and weighs 18 oz.

All officers of the infantry carry the Smith and Wesson six-chambered revolver, 0·43-in. bore, and rifled in five grooves. The weight of this weapon is 2 lbs. 5 oz. that of the bullet 0·5 oz., and of the charge 0·046 oz.

The pioneers in the infantry carry, in addition to the ordinary pioneer tools, a *machete* or *fascine* knife.

Cavalry.

The cavalry has undergone more transformations, during the last twenty years, than any other arm of the Spanish service. It was reorganized after the Revolution of 1868, and its constitution was modified annually between 1871 and 1875. Several fundamental changes were introduced in 1877, and these were followed five years later by a further reorganization, which, in its turn, was slightly modified by a Royal Warrant of August 1885.

The Spanish cavalry now consists of 28 regiments—8 of Lancers (Nos. 1 to 8), 4 of Dragoons (Nos. 9 to 12), 14 of Mounted Rifles (Nos. 13 to 18 and 21 to 28), 2 of Hussars (Nos. 19 and 20). There are, in addition, one squadron of Life Guards, and a troop of African Horse. The cavalry regiments are not only known by their numbers, but by titles recalling Spanish victories.

porals, 4 trumpeters, 8 farriers, 1 smith, and 104 troopers. In the event of mobilization, the staff would not be altered, although the number of officers' horses would be increased by five. Each squadron would be strengthened by the addition of 1 sub-lieutenant, 1 sergeant, 2 corporals, and 39 troopers. The total war effective of the regiment would be raised in this way to



CAPTAIN OF HUSSARS.

Each regiment consists of four squadrons and a staff. The latter comprises 1 colonel, 1 lieutenant-colonel, 8 majors, 4 captains, 3 lieutenants, 2 sub-lieutenants, 1 chaplain, 1 surgeon-major, 3 veterinary surgeons, 1 riding-master, 1 armourer, 1 saddler, 1 trumpet-sergeant, 1 trumpet-corporal, 2 sergeants, and 1 corporal, with 20 officers' and 5 troop horses. The peace effective of the squadron is 1 captain, 3 lieutenants, 1 sub-lieutenant, 1 sergeant-major, 3 sergeants, 12 cor-

43 officers and 700 non-commissioned and troopers, with 649 horses.

The squadron of Guards, called the *Escolta real*, consists of 1 colonel, 1 lieutenant-colonel, 2 majors, 3 captains, 2 adjutants, 1 paymaster, 5 lieutenants, 1 veterinary surgeon, 1 sergeant-major, 4 sergeants, 8 corporals, 1 corporal trumpeter, 3 farriers, 1 smith, 4 trumpeters, and 120 troopers. The conditions of entrance into this corps are somewhat strict. The

Candidate must be a man of good character under 30 years of age, at least 5 ft. 6 $\frac{1}{2}$ in. in height, and have already served in the cavalry.

On mobilization, 28 reserve regiments, corresponding to the 28 regiments of the standing army, would be formed from cadres maintained in peace. These cadres have an effective of 1 colonel, 1 lieut.-colonel, 1 major, 5 captains, 6 lieutenants, 4 sub-lieutenants, 4 sergeant-majors, 2 corporals, 2 trumpeters, and 8 troopers. The peace duties of the cavalry reserve cadres consist in the maintenance and supervision of all stores which would



MOUNTED CHASSEURS.

be required by the regiment in the event of war. By calling in the Reserves, they could be raised, at short notice, to 4 squadrons each, with the same effective as the regiments of the first line.

The total strength of the Spanish cavalry on mobilization would be—

112 active squadrons . . .	19,600 sabres.
112 reserve , , ,	19,600 ,
<hr/>	
224 squadrons . . .	39,200 sabres.

The *armes blanches* of the Spanish cavalry consist of the sabre and the lance. All the cavalry carry the former, which is slightly bent, 3 ft. 8 $\frac{1}{2}$ in. long, and weighs 4 $\frac{1}{2}$ lbs. The lance, 8 ft. 7 $\frac{1}{2}$ in. long, and weighing 4 $\frac{1}{2}$ lbs., is carried in a bucket on the stirrup, and provided with a leather arm-loop. Dragoons, mounted rifles, hussars, and one section in each squadron of lancers, are armed with the Remington carbine. This weapon, which is carried in a bucket on the shoulder

of the horse, differs from the infantry rifle only in length (3 ft. 2 in.) and weight (7 lbs. 3 oz.). The initial velocity is 1,023 ft. per second with a charge of 0·14 oz., and the carbine is sighted up to 650 yds. The sections of the lancers which are not armed with the carbine carry the lance and a six-chambered revolver. All cavalry officers are provided with the latter weapon, on the Smith and Wesson principle.

The Remount Service.

Until the close of the last century, the remounts of the Spanish cavalry were provided only by direct purchase or requisition. In 1798, however, dépôts were formed in several districts, for the purchase and training of remounts for military purposes. These cavalry remount dépôts were modified, both in number and organization, by successive Royal Warrants. They were at first two in number; in 1874 a third was added, and in 1875 a fourth, but no alteration has since taken place. The four dépôts are now stationed as follows:*

Depôt No. 1 at Ubeda, in Granada.

" , , 2 at Cordoba, in Granada.

" , , 3 at Jerez de los Caballeros in Estremadura.

" , , 4 at Moron, in Seville.

The remount dépôts, according to the regulation of 1st March 1877, are maintained for the purchase and training of horses for cavalry regiments, and are charged at the same time with improving the breed of Spanish horses generally, and developing this source of wealth to the nation and of strength to the army. The personnel of each dépôt consists of 1 colonel, 1 lieut.-colonel, 1 major, 2 captains, 5 lieutenants, 3 sub-lieutenants, 1 surgeon, 3 veterinary surgeons, 1 sergeant-major, 11 sergeants, 19 corporals, 8 trumpeters, 122 troopers, 3 farriers, 1 smith.

The horses are purchased as colts or three-year-olds, and kept until their fifth year, when they are delivered over to the regiments.

The Spanish military authorities maintain, in addition to the remount dépôts, six studs for improving the breed of Spanish horses.

The officers of the Spanish army are not mounted gratuitously, but are required to pay a small sum proportioned to their rank. The average price of a Spanish horse is £40. The length of service is calculated at 8 years. The normal peace effective is, in round numbers, 12,000 in the cavalry and 1,500 in the artillery, and the annual loss is, therefore, between 1,500 and 2,000. Moreover, about 300 mules, also bred in the Government haras, are required annually for transport purposes.

The equine population of the Peninsula is estimated

* There is, in addition, a dépôt for infantry officers' remounts at Madrid.

at 700,000, the number of mules at 300,000. The Spanish horse, once far-famed, is now a somewhat degenerate animal, but great efforts are being made to improve the stock, and Andalusia is regaining something of her old *prestige* in horse-breeding. For draught purposes, mules are exclusively used in the Spanish army.

In the event of war, about 30,000 horses, excluding train and convoy animals, would be required for military purposes. Until recently, the authorities trusted to the dépôts to supply the necessary number of remounts on mobilization; but in 1885 it was enacted that if the required complement of horses be not forth-

short time to 388. The Spanish artillery consisted, in 1884, of 9 field and 3 mountain batteries, stationed in various parts of the Peninsula, without any connection with the cavalry or infantry or with each other, and wholly wanting in any definite plan of mobilization for war, although it was pointed out by the military authorities that artillery is the most difficult of all arms to improvise on the outbreak of hostilities. The germ of a better condition of things was introduced by a Royal Warrant of December 1884, in which an attempt was made to render the artillery more fit for rapid operation in combination with infantry and cavalry.

By the provisions of this warrant, which has not since



CAPTAIN AND PRIVATES OF THE REMOUNT SERVICE.

coming by this means, recourse may be had to the old system of requisition.

Artillery.

Despite frequent reorganization, the artillery was for many years the most neglected arm of the Spanish service. The authorities were always endeavouring to reconcile cheapskating economy with efficiency, and the experiment proved no more successful in Spain than elsewhere. Since 1883, however, a change for the better has taken place. In that year, under the military administration of General Lopez Dominguez, the number of field guns was raised from 300 to 330, and arrangements are now being made to increase them within a

undergone any important modification, the Spanish artillery consists of—

- 5 regiments of division,
- 5 *corps d'armée* regiments.
- 1 siege regiment,
- 9 fortress regiments,
- 7 recruiting and Reserve depôts.

The divisional regiments consist of a staff and 6 batteries each. The composition of the staff is as follows: —1 colonel, 1 lieutenant-colonel, 3 majors, 1 captain in command of the dépôt, 2 adjutants, 1 captain commanding the ammunition column, 2 lieutenants attached to the ammunition column, 1 paymaster, 1 sub-lieutenant, 1 surgeon, 1 chaplain, 5 veterinary surgeons, 1 riding

master, 1 sergeant trumpeter, 1 corporal trumpeter, and 1 artificer. The effective of the battery is :—1 captain, 2 lieutenants, 1 sub-lieutenant, 8 sergeants, 18 corporals, 8 trumpeters, 72 gunners, and 6 artificers. The total strength of the regiment is, therefore, 44 officers and 579 non-commissioned officers and men.

Each battery has six 8 cm. guns, 2 ammunition wagons, and 1 section wagon. The batteries of 5 divisional regiments are armed with steel, of the remaining 3 with bronze guns.

The regiment of *corps d'armée* artillery consists of a staff and 4 batteries. The composition of the staff does not differ from that of the divisional regiment, except in the number of veterinary surgeons, of whom it has 2

hotly discussed. It was not, however, until 1882 that the general sense of the Spanish service inclined towards the change. In that year, when the question was submitted to the Cortes, it was found that the General officers of the army were for the most part in favour of the innovation, and financial difficulties alone prevented the immediate practical adoption of the new views. "It is proposed," said Marshal Martinez Campos, then Minister of War, "to introduce horse artillery into our service, in imitation of the example which has been already set by the great military Powers of Europe. Unfortunately, this arm is not only expensive to create, but also to maintain, and this objection is increased by the fact that we have not in Spain a breed of horses



CUBAN GUERRILLEROS.

less. Each of the batteries has an effective of 1 captain, 2 lieutenants, 1 sub-lieutenant, 4 sergeants, 2 trumpeters, 18 corporals, 89 gunners, and 3 artificers. The total strength of the regiment is : 85 officers, and 456 non-commissioned officers and men. Each battery has six 9 cm. guns, 2 ammunition wagons, and 1 section wagon. Two of the regiments possess steel, the remaining three bronze guns. The ammunition wagons date for the most from the year 1890; but great efforts are now being made to provide an adequate number of these vehicles constructed on the most recent system.

In addition to these field regiments, a new battery of horse artillery, created tentatively, in 1885 should also be included in the *corps d'armée* artillery. For many years previous to 1885, the advisability of raising a number of horse artillery batteries—in which, until recently the Spanish army was wholly deficient—was

suited for the purpose. It would be necessary to obtain them from abroad, and a considerable loss would necessarily be incurred in the process of acclimatization. We must, therefore, postpone the realisation of this change until we have obtained from our own haras the type of horse we require." In 1885 a beginning was made by the creation of a battery armed with four 8 cm. guns, and having the following effective :—1 captain, 2 lieutenants, 4 sergeants, 8 corporals, 3 artificers, 2 trumpeters, and 56 gunners, with 40 saddle, and 80 draught horses.

The mountain artillery regiments, which were reduced in number from three to two in the reorganization of 1885, consist of 6 batteries each. Their organization is almost analogous with that of the divisional regiments. The total strength of each battery is : 44 officers, and 752 non-commissioned officers and men, with 6 guns, 18

ammunition wagons, and 2 *matériel* cases, all carried by mules.

Until the year 1884, no independent siege artillery existed in the Spanish army. The siege *matériel* was entrusted to the care of the garrison artillery battalions, whose duties were by no means clearly defined, and whose short period of service with the colours prevented them from acquiring anything approaching to the training necessary for handling siege guns with efficiency. In December 1884 a salutary change was effected by the creation of a separate regiment of siege artillery which is capable of being attached to the field army, and possesses a mobility wholly wanting in the ordinary garrison artillery battalions. "The duties of the new troops," said the

additional artillery, but there are only four batteries of four 14 cm. guns each. These guns are now almost obsolete, but a new pattern on the Hontoria system is in course of introduction.

The ammunition column of each divisional or *corps d'armée* regiment consists of 20 wagons, divided into two sections. The mountain artillery columns consist similarly of two sections, each comprising 50 caissons carried on mule-back.

Of the 9 battalions of fortress artillery, the first 3 have six, and the remainder four companies each, excluding in both cases the dépôt company. The staff consists of 1 lieut.-colonel, 2 majors, 1 adjutant, 1 captain in charge of the stores, 1 captain in command of the dépôt company, 1 paymaster, 1 sub-lieutenant, 1 surgeon, 1 chaplain, 1 armourer, 2 buglers, and 1 artificer. The companies consist each of: 1 captain, 2 lieutenants, 1 sub-lieutenant, 1 sergeant-major, 3 sergeants, 10 corporals, 2 buglers, and 77 gunners.

These battalions are so organized that they can be easily broken up into detachments for garrisoning the various fortresses of the Peninsula. The 3,900 men of whom the fortress troops consist are stationed, for instance, at 37 fortified places, the strength of the detachments verging between $\frac{1}{2}$ and 4 companies.

The 7 recruiting and reserve dépôts, quartered at Madrid, Barcelona, Seville, Corunna, Saragossa, Valladolid, and Granada, have been organized during the last few years in substitution of the 7 reserve cadres which previously existed. The dépôts are charged with all operations connecting with the recruiting and mobilization of the artillery in the districts under their control. The number of districts to each dépôt varies considerably. Of the 140 zones into which the country is divided, the 1st artillery dépôt comprises 22, the 2nd 21, the 3rd and 4th 17 each, the 5th 23, the 6th 18, and the 7th 22. Each dépôt, however, is so organized that it is able to furnish recruits and reserves for three regiments, of either siege, field, mountain, or fortress artillery. Thus the 1st dépôt at Madrid supplies recruits and reserves to the regiment of siege artillery, the 2nd regiment of *corps d'armée* field artillery, and the 4th regiment of divisional field artillery; the 2nd dépôt at Barcelona recruits the 1st regiment of mountain artillery, the 8th battalion of fortress artillery and the 2nd regiment of divisional artillery; and so on in the case of the other dépôts.

Engineers.

The Spanish Engineers, partly reorganized in 1888, were subjected in December 1884 to a series of reforms similar to those applied to the artillery at the same date. They consist, at the present time, of the following troops:—

- 4 regiments of sapper-miners.
- 4 regiments of reserve.



FIELD ARTILLERY.

Minister, in his *exposé des motifs*, "need not necessarily be confined to siege works. They may take part in all the operations of the battlefield, where they will act as position batteries. They may serve as a light siege train in attacking fortified villages, or intrenched camps, for which the ordinary field artillery would not suffice, and, finally, they may be employed in the energetic defence of important positions." It is, of course, apparent that a single regiment is wholly inadequate for the work here sketched out, and Marshal Quesada earnestly advocated the formation of a second corps. But the question of expense overruled, in this as in most other cases, that of mere military expediency, and the Minister had perforce to content himself with the creation of one regiment, and the promise of more when the state of the Spanish Budget permits. The organization of the regimental staff is the same as that of the divi-

- 1 pontoon regiment.
- 1 battalion of railway troops.
- 1 telegraph battalion.
- 1 topographical brigade.
- 1 section of artificers.

The regiments of sapper-miners consist of 2 battalions of 4 companies each. The staff of the battalion is as follows : 1 lieut.-colonel, 1 major, 1 adjutant, 1 captain in command of the dépôt, 1 sub-lieutenant, 1 chaplain, 1 surgeon, 1 armourer and 1 trumpeter. The company effective is 1 captain, 2 lieutenants, 1 sub-lieutenant, 1 sergeant-major, 4 sergeants, 9 corporals, 2 trumpeters, and 70 sappers. In addition, one of the regiments, quartered in Madrid, has a band.

The sapper-miner regiments of the Peninsula and Beleares recruit from the whole country, but each in a separate zone, comprising 3 or 4 of the 13 districts into which the kingdom is divided. The 1st regiment recruits in Galicia, Burgos, Navarre, and the Basque provinces ; the 2nd in New and Old Castile ; the 3rd in Andalusia, Granada, and Estremadura ; the 4th in Aragon, Cataluna, Valencia, and the Balearic Islands.

The pontoon "regiment," as it is called, consists, at present, of only 1 battalion of 4 companies. The effective is as follows: 1 colonel, 1 lieut.-colonel, 2 majors, 4 captains, 1 adjutant, 1 captain in charge of the dépôt, 12 lieutenants, 1 sub-lieutenant, 1 surgeon, 1 chaplain, 2 veterinary surgeons, 1 riding-master, 4 sergeant-majors, 20 sergeants, 37 corporals, 8 trumpeters, 4 farriers, 2 smiths, and 365 pontoniers, with 30 troop horses and 120 mules. It is expected that the strength of this regiment will shortly be quadrupled, although at the present time only a portion of the material and horses necessary for the existing four companies are maintained.

Until recently, the men who had served their term in the engineers passed into the infantry dépôt or reserve battalions, from which they rejoined their old corps on mobilization. This round-about system necessarily led to considerable complication, and might, in the event of war, have seriously delayed the mobilization of the engineers. A much-needed reform was made by the warrant of 14th December 1884, when 4 reserve regiments were created to fill the gap. The cadres of the new regiments are, at present, extremely weak, comprising only one lieut.-colonel, 1 major, 1 captain, and 2 sergeants ; and they may be regarded, in peace, as mere *bureaux de recrutement*. In war, however, they would be capable of almost unlimited expansion.

The railway battalion is divided into 2 sections, each consisting of 2 companies, the first intended for constructing and repairing, the second for working the lines. It was proposed a few years ago to follow the example of Germany in entrusting to these troops the maintenance and working of an independent line of railway. Difficulties of various kinds prevented the execution of this project, and in the meantime the railway battalions are employed in the construction and working of railroads in various parts of the kingdom, as opportunity offers. The battalion has a staff of 1 lieut.-colonel, 1 major, 1 adjutant, 1 captain in charge of the dépôt, 1 sub-lieutenant, 1 surgeon, and 1 chaplain. Each of the 4 companies consists of 1 captain, 8 lieutenants, 1 sergeant-major, 6 sergeants, 11 corporals, 2 buglers, and 79 privates. The battalion is recruited, as far as possible,



ENGINEERS.

from men who have already served on the railways of the kingdom before joining the colours.

The telegraph battalion consists of 4 companies, and has, with a few exceptions, the same organization as the railway corps. The 1st, 2nd, and 3rd companies are exclusively employed in the electrical telegraphic service, the 4th in signalling and optical telegraphy.

The topographical brigade comprises 1 lieut.-colonel, 1 major, 2 captains, 4 lieutenants, 2 sub-lieutenants, 2 sergeant-majors, 6 sergeants, 16 corporals, 2 buglers,

and 54 privates. It is charged with the military survey of the country, the production of plans of fortresses, and maps of the frontier and coast.

The section of workmen, or artificers, comprises 1 captain, 1 lieutenant, 1 sergeant-major, 2 sergeants, 5 corporals, 1 bugler, and 51 workmen. It consists exclusively of mechanics skilled in the manufacture of engineering tools and instruments. In time of war, it would be employed in work for which the technical skill of the ordinary sapper or miner is insufficient.

Special Corps.

The *Guardia Civil*, corresponding to the gendarmes of France and Germany, are employed in peace as constabulary, and would be called upon in war to furnish escorts, and act generally as army police. The corps is recruited from men who have served their time with the Colours, and great inducements are offered to men of good character to join it. The total strength of the corps is 780 officers, and 14,750 men.

The Carabineros, or Customs Guard, are also recruited from men who have served with the Colours, and though at the disposal of the civil authorities during peace, would become an integral part of the army in war. The effective is in round numbers 14,500 officers, non-commissioned officers, and men.

Two companies of halberdiers are maintained for guarding the royal castles and residences. The chief command of these troops is exercised by a captain-general. Each captain in these companies is a colonel in the army, each lieutenant a colonel or lieutenant-colonel, each ensign a major, each sergeant-major a captain, and so on. The privates are all picked men who have served in the Active Army.

The Colonial Army.

Experience has shown that an army reenforced on the principle of universal military service does not lend itself readily to a policy of colonial expansion, or even to a colonial policy of any kind. The extreme unpopularity of M. Ferry's Tonquin adventure may be traced in great measure to the intense dislike of the French soldier for service out of his own country, and to a general feeling that whatever claims France may have on the lives of her sons for the defence of her own territory, no government is entitled to enforce their assistance in a scheme of colonial aggrandisement. The same difficulty has presented itself in Holland, where service in the colonial army is the last resort of the residuum of society. The practical abandonment of Prince Bismarck's policy of colonial expansion may probably be traced to the same cause; and there can be little doubt that should the Italian Government be obliged to send out a considerable number of troops other than volunteers to Abyssinia, Massowah will come to be regarded

by the Italians in the same light in which the French now look upon Tonquin and the Dutch on Sumatra.

These difficulties have taxed the ingenuity of the Spanish Legislature for several years past, and no adequate solution of them has yet been found. Despite the large bounties offered for voluntary service, it has been found impossible to secure anything approaching to the required number of men by this means, and, as has been before explained, recourse is had to the annual contingent raised by compulsory service. Owing to the unhealthy climate of most of the Spanish colonies, the period of service has been reduced to eight years—four in the Active Army, and four in the Reserve; or, if the recruit elects to serve six years in the Active Army, he is excused from further liability.

Colonial service is no more popular with the officers than with the non-commissioned officers and men of the Spanish army, and it has been found necessary to devise a system by which, when volunteers fail, the necessary quota may be obtained by lot. Officers who join the colonial forces receive a step in rank. After six years' service they may return to Spain, and if at the expiration of another three years they re-engage for colonial service, they are once more promoted.

The Spanish Colonial Army is distributed in Cuba, Porto Rico, and the Philippine Islands. The Cuban army consists of 6 regiments of infantry, of 3 battalions of four companies each, 8 battalions of rifles of 4 companies each, 9 companies of guerilleros attached to the infantry regiments and rifle battalions, 1 regiment of cavalry, 8 companies of field artillery, 1 mountain battery, 1 company of workmen, 1 battalion of engineers of 6 companies, and 1 hospital corps. The total peace effective is about 25,000 of all ranks. A reserve of local militia is in course of organization.

The troops quartered in Porto Rico consist of 4 battalions of infantry, 1 battalion of artillery, 1 section of workmen, 1 disciplinary company, and 1 hospital corps, with a total peace strength of about 4,500 officers, non-commissioned officers, and men.

The Philippine army comprises 7 regiments of native infantry, 1 squadron of native cavalry, 1 regiment of field artillery, 1 battery of mountain artillery, and 1 battalion of engineers, with a total effective of about 10,000.

Peace and War Strength.

The peace effective of the Spanish army for the current year is as follows:—

	Men.
Peninsula (including the Belearic and Canary Islands)	100,002
Cuba	19,858
Porto Rico	8,160
Philippine Islands	8,753
	<hr/>
	131,773

The total effective for last year was 181,555.

In the event of war, the Spanish Peninsular Army would probably be mobilized in *corps d'armée* of two divisions each. The division consists of 2 brigades of infantry, 2 squadrons of cavalry, 3 batteries of artillery,

and 1 company of engineers, with a total strength of from 8,000 to 9,000 men. In 1891, when the reorganization inaugurated in 1882 is complete, Spain should be able to send 35 divisions into the field, and still have over 200,000 men available for garrison duty.

C. J. L'ESTRANGE.

NAVAL AND MILITARY NOTES AND QUERIES.

MACHINE-GUNS.—According to Lord Charles Beresford, than whom no one has had greater experience in the use of this instrument, the *name* itself is a *misnomer*. “I think they ought to be called,” he says, “‘machine-rifles,’ because directly you get into the question of ‘machine-guns,’ you have a discussion of how they are to be mounted. On two occasions, at Alexandria, if I had had a machine-rifle that could have galloped, I could have sent a certain amount of help; and it struck me whether it might not be possible to mount the machine-rifles so that a horse or horses could gallop with them. Directly the question of guns or batteries is produced, the limber and trail is discussed; but keep this machine as a ‘rifle,’ and it might be able to be put into action at a moment’s notice. That is what passed through the brain of Captain Wilson, V.C., in the Soudan, because the time he lost in having to ‘unlimber’ and ‘action right,’ ‘action front,’ or ‘action rear,’ probably lost him a good many men, and prevented his being able to fight his gun at all. The object of the two wheels, either with infantry or cavalry, is to have the gun always in action. It should be able to train over its own wheels, and the mere dropping the trail on the word ‘halt,’ ‘right’ or ‘left reverse,’ should put the gun in immediate action. I think it would be a very wise thing if the authorities would get rid of the expression ‘machine-gun,’ and, as soon as possible, use ‘machine-rifle’; for, really, after all, this weapon is simply a cluster of long-range rifles.”

KRIEGSSPIEL.—Lieutenant S. Sharp, of the 3rd Middlesex R.V. Corps, has recently invented a series of “Interchangeable War Game Maps,” of which twenty sets have already been ordered by the military authorities. The word “maps” does not indicate the full value of the invention, for it means, really, a very cheap and portable “Kriegsspiel apparatus.” The remarkable feature in the maps themselves is, that each

of the sheets of the whole set of nine, whether the right way up or reversed, is interchangeable with any other sheet of the set. Place them in any order on the table, and the contours and roads always fit. Insert among them the river slips, and we have the representation of fresh ground. The possible combinations available for Kriegsspiel schemes, and also incidentally for the practice of map-reading, are numbered by millions. The maps are on the six-inch scale, and are contoured at 50-feet intervals; woods, roads, and water are coloured. Each sheet and slip is lettered in the corner, so that a mere memo. to a combatant enables him to arrange the maps in the proper order for the study of the forthcoming encounter. Each sheet is two miles by three miles. When, further, we find that a complete set of nine maps can be obtained for a guinea, and the same sum covers the red and blue blocks necessary for a Kriegsspiel, it will be evident that we have, at last, a Kriegsspiel apparatus available for intra-regimental and intra-company instruction in tactics.

THORNCOMBE v. COCKTHORPE.—A most interesting naval volume might be compiled from the memoirs of the Hood family. The brothers Samuel and Alexander, sons of the Vicar of Thorncombe, betook themselves to the sea, with little more than their own merit to advance them, and became Lords Hood and Bridport. Sir Samuel Hood, after a career of brilliant services, died Commander-in-Chief in India; and Captain Alexander Hood was slain in action, while capturing the French 74-gun ship *Hercule*. Thus Thorncombe, in Devonshire, excels Cockthorpe, in Norfolk, which so greatly prided itself on its naval heroes. The latter village, containing three houses only, produced from each individual house a great and celebrated admiral. From one proceeded Sir Christopher Mimms; the second furnished Sir John Narborough; and from the third arose Sir Cloutesley Shovel.

R. O'BYRNE.

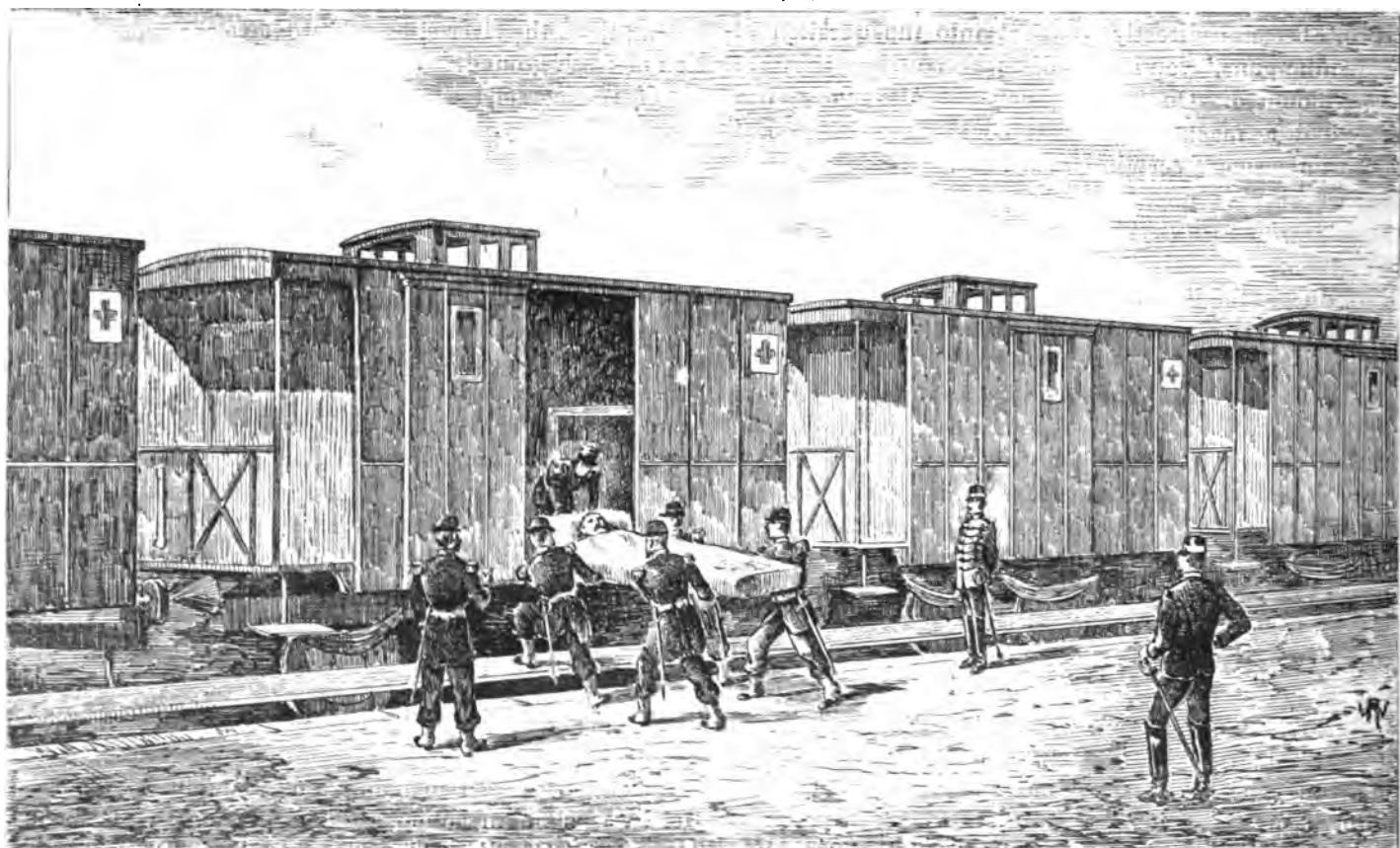
THE FRENCH SANITARY TRAIN.



HOWEVER barren in practical results the mobilization of the 17th French *Corps d'Armée* last year may have been, it gave an impetus to the study of one highly important branch of military science—the railway transport of the wounded. This subject has been somewhat neglected since it was first reduced to practical experiment in 1881. In that year Colonel Bry devised a method of suspension which, although by

wholly prevent jarring, the necessary elasticity must be obtained by the suspension of the carriage itself.

2. The number of wounded must not exceed eight to the car. The beds must be placed in the corners, and so arranged one above the other that the patient may assume a sitting position, and the surgeon be able to dress his wounds.
3. The cars must communicate with each other by means of a central passage-way.



THE METHOD OF TRANSPORTING A PATIENT INTO THE CAR.

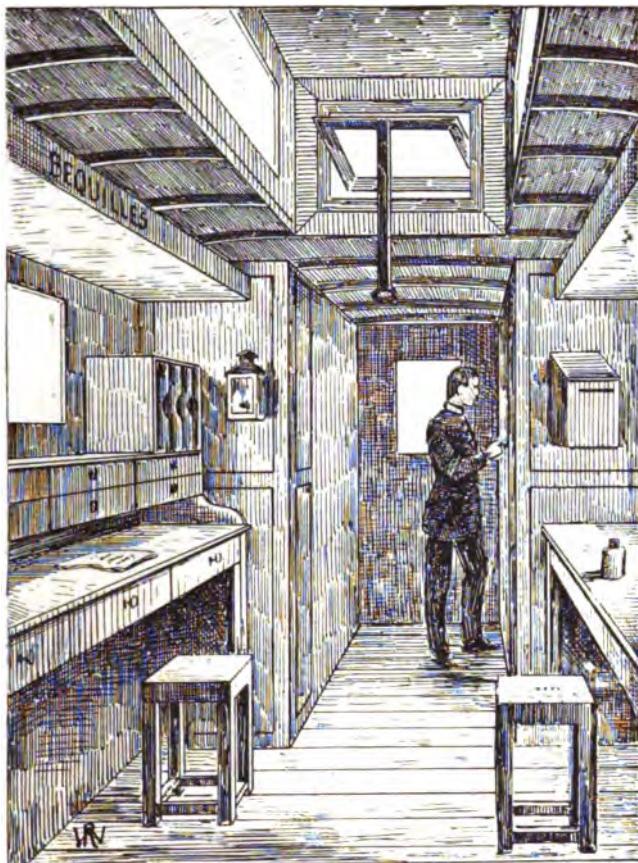
no means completely satisfactory, led other inventors to turn their attention to the subject. Colonel Bry's system was adopted by the French authorities for improvised trains, but it was considered unsuitable for permanent use. In 1884 a series of official experiments was carried out, and the result was that the Special Committee appointed for the purpose issued the following list of conditions which the model sanitary train must satisfy:—

1. Owing to the fact that no mode of suspending of the stretchers has yet been found which will

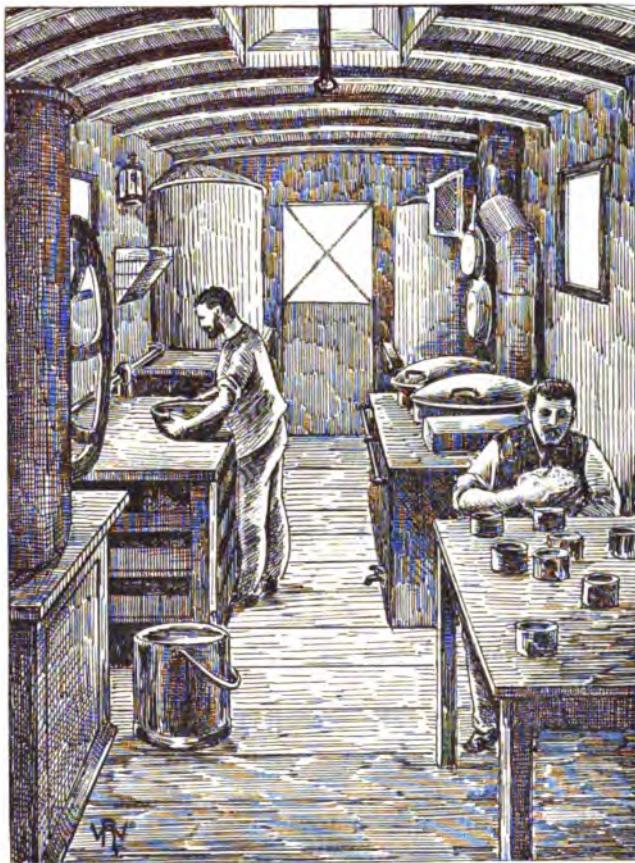
4. The ventilation of the cars must be effected by means of movable windows at the extremities of the upper roof. A lamp and a military lantern must be provided for night use.
5. The heating must be effected by small stoves, and not by hot-water cylinders, which were found inadequate in the preliminary experiments.
6. The floor-covering of the cars should consist of linoleum.
7. A special car, fitted with iron bedsteads, seats, a

- desk and lavatory accommodation, should be provided for the surgeons.
8. Another car, similarly furnished, should be provided for the nurses.
 9. A car specially arranged for cooking purposes, should contain a range, water cisterns, tables, and closets for kitchen utensils.
 10. Another car should be fitted as a dispensary, and contain accommodation for linen and surgical instruments.
 11. The front car of the train should carry a supply of provisions, and the rear car be reserved for soiled linen and fuel. These cars, which do not commu-

The type of car selected for the purpose is the baggage-carriage for fast-train traffic. It would be necessary in the event of mobilization to alter the springs; but this could be done in a very short time; and it has been found that the pattern which it is proposed to use renders jarring almost imperceptible, even when the train is running at a high rate of speed. On the whole, the conditions laid down by the Commission have been closely adhered to, and considerable ingenuity has been shown in utilizing the available space to the best advantage. Only one important departure has been made from the original programme. It was found that one car would be absolutely inadequate for the



THE DISPENSARY.



THE KITCHEN CAR.

- nicate with the rest of the train, should carry the guard and be provided with look-outs and brakes.
12. The train should consist in all of 22 cars, distributed as follows: 16 for the patients, 1 for the surgeons, 1 for the nurses, 1 for the kitchen, 1 for medicine, instruments and linen, 2 for the guards.

The French Western Railway Company undertook the practical working-out of this problem, under the supervision of M. Clevault, Engineer-in-Chief of rolling stock. The result of their labours is the sanitary train shown in the accompanying illustrations.

kitchen appliances necessary for preparing the food of the patients and attendants, and a second car had consequently to be added, raising the total to 23.

The interior fittings of the sanitary car have been so designed that they can be arranged at the shortest notice on mobilization. Each corner of the car is provided with a wooden framework constructed to receive two beds, one above the other. The frames are protected against shocks by several thicknesses of Wilton carpet covering the floor of the car; and the beds, consisting of stout canvas, are attached to the wooden framework by suspension belts which still further reduce the effect

of jarring or jolting. The patient is, therefore, protected from shocks by the threefold arrangement of the carriage springs, the floor-covering, and the suspension belts. Every patient has within his reach a small flanged shelf fixed to the frame by hooks, and designed to receive a cup and a physic glass. There are, finally, in each car

tested on 4th July 1887, between Paris and Havre, when 88 infantry soldiers simulating wounded men were laid upon stretchers and carried to the cars, where they were attended by 30 nurses. Although a speed of 24 miles per hour was frequently reached, no appreciable jarring was experienced by the "patients."



THE INTERIOR ARRANGEMENT OF THE HOSPITAL.

a number of small objects, such as seats, thermometers, stores, &c.

Wide side-doors for the reception of the patients are provided, in addition to the doors of communication between the cars.

The first train built on these lines was [practically

The experiment proved conclusively that overcrowded hospitals may be emptied without danger to the patients, and to their inestimable comfort and advantage. Within a short time arrangements will have been completed for placing ten trains of this type on the railways of France.



THE NEW KRANKA MAGAZINE RIFLE.



HIS rifle belongs to the class of firearms known as "bolt guns," more especially those having a magazine arranged to feed the cartridges sidewise up through an opening in the bottom of the receiver, whence they are pushed forward by the bolt into the chamber of the barrel. It is jointly the invention of the Gebrüder Silvester Krnka, manufacturer, and Karl Krnka, lieutenant in the Austrian army, both of Prague in Bohemia.

inward projecting-pin that penetrates into a helical slot, formed in the side of the hollow bolt. The thumb-lever, or handle, is rigidly secured to this socket, and provided at its end with a bell-shaped hollow knob extending downward and rearward.

In order to prevent this socket from turning with the breech-bolt, it has a tongue formed on its underside, and guided in a corresponding groove of the tail of the receiver. Thus this thumb-lever socket is adapted to displace itself endwise on the rear end of the bolt, and

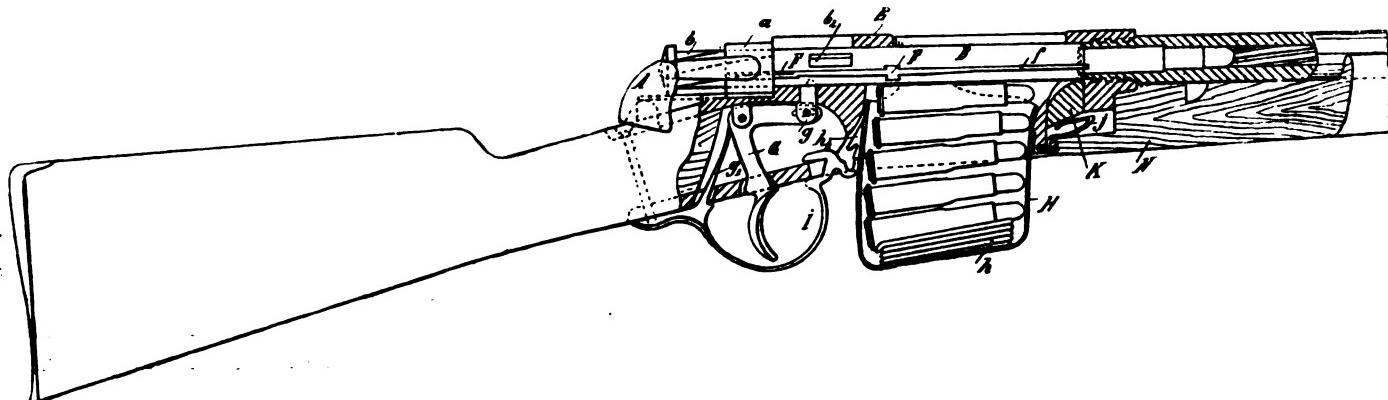


FIG. 1.

They claim as novelties in their invention: (1) a special construction of the device by which it is possible to unlock the bolt and draw it back by one straight pull on the thumb-lever, and inversely thrust the same bolt forward and lock it by pushing the thumb-lever; (2) an improved construction of the lock enclosed in the hollow breech-bolt; (3) a novel magazine suspended from the underside of the

to cause the bolt at the same time to turn a certain angle, whereby it is unlocked or locked. The backward movement of the socket on the bolt is limited by the flange of the screw-plug, by which the rear end of the bolt is closed, so that the socket when it reaches the flange of the screw-plug, carries the bolt along, and thereby opens the breech. For preventing the thumb-lever socket, while the breech is being closed, from displacing itself on

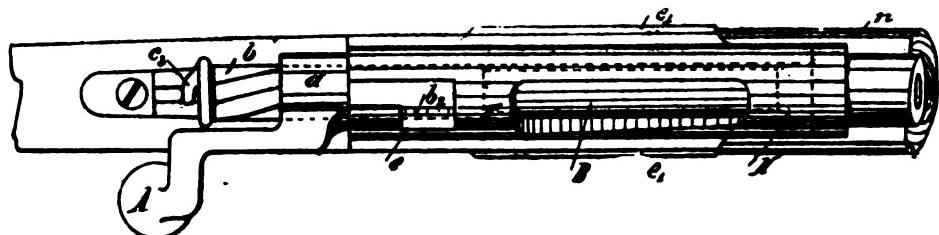


FIG. 2.

receiver, containing two piles of cartridges in juxtaposition; (4) an improved means of attaching and securing the magazine to the arm; (5) means for converting the arm to a hand breech-loader while the magazine is fixed to the rifle.

The rear end of the breech-bolt carries a socket endwise, movable on the bolt and provided with an

the bolt before the latter has been wholly pushed forward, a spring plate or bar is placed in a longitudinal groove of the bolt, and the rear end of this spring bar shoots out from the groove in front of the withdrawn socket as soon as the bolt begins to move backwards, and is forced down again into the groove when the breech-bolt is pushed wholly forward.

The screw-plug by which the rear end of the breech-bolt is closed, has a central bore through which the rear end of the firing-pin projects. The coiled spring by which this pin is actuated, bears by one end against the screw-plug, and by the other end against a

a transverse leg or branch, and a small pin or nib penetrates into this groove. When the lock is cocked, the nib is placed in the vertex of this angular groove. By turning the screw-plug, a small angle through the nib, it enters the transverse leg of the groove, and firing is prevented.

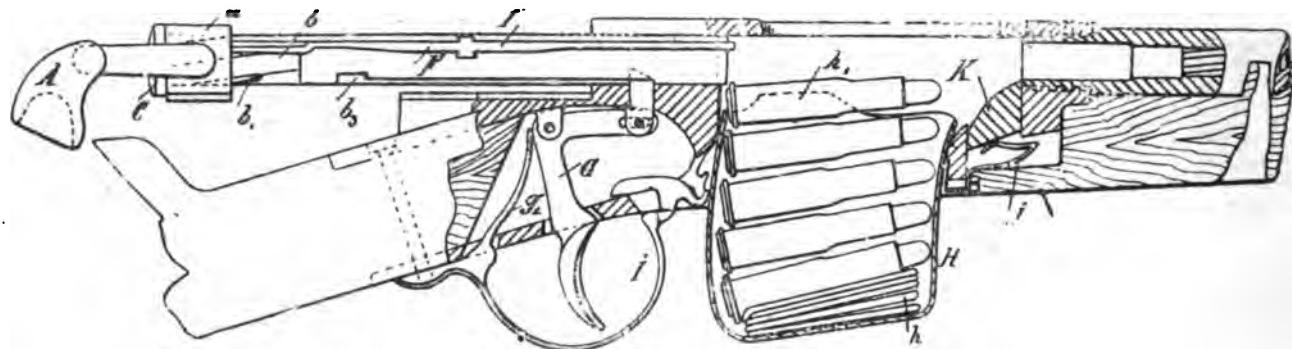


FIG. 3.

collar of the firing-pin, this collar having a certain thickness, to guide the pin at the same time in the hollow space of the bolt.

In the side of the tubular screw, there is formed a helical slot, corresponding to the similar slot formed in the bolt, and the pin of the thumb-lever socket penetrates through both registering slots into a recess of the firing-

The magazine is of the type generally known as the Lee magazine. Its width is somewhat smaller than twice the diameter of a cartridge, in consequence whereof each cartridge of the two juxtaposed piles which are filled into the magazine tangentially penetrates between two cartridges of the other pile or column. A coiled spring, common to both columns and cartridges, constantly lifts them so as to force the uppermost cartridge between the inward-bent springy flaps formed at the upper edges of the lateral sides of the magazine.

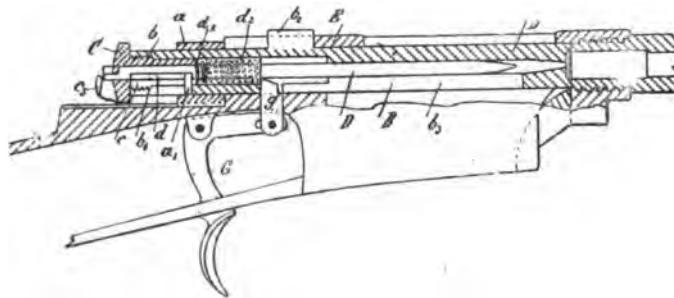


FIG. 4.

pin, which cocks the lock, the socket being moved back on the bolt. On the following backward movement of the bolt, the spring bar keeps the socket in its position, and prevents the lock from uncocking. When the bolt is thrust forward into the receiver, the catch, or sear, articulated to the triggers, springs into a longitudinal slot

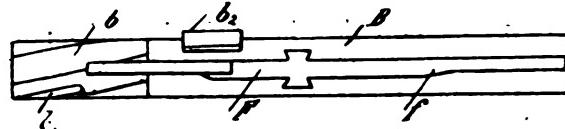


FIG. 5.

The trigger-guard is screwed to the stock by its rear end only, and is made springy. On its loose front end, a hook is formed for attaching one or other of two corresponding hooks secured at different heights to the rear side of the magazine. The higher of these two hooks is used when the arm is to serve as a hand breech-loader or single-shooter. In this case, two spring flaps which bear against the lateral sides of the

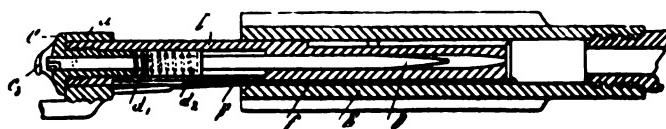


FIG. 6.

of the breech and places itself in front of the collar of the firing-pin, whereby the lock is further maintained in the cocked condition.

In the outward projecting rear end of the firing-pin, there is an angular groove composed of a longitudinal and



FIG. 7.

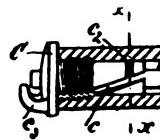


FIG. 8.

raised magazine approach each other as soon as the magazine is lowered, and thus sufficiently close the opening in the bottom of the receiver to allow of cartridges being placed into the receiver from above.

When no magazine is connected with the receiver, a slide is pushed over its lower surface, this slide being moved on the shaft or fore part of the stock when a magazine is to be inserted.

The value of the Gebrüder Krnka's invention will be more readily understood by referring to our diagrams.

Fig. 1 presents a vertical longitudinal section of the fire-arm when the breech is closed. Fig. 2 is a plan of one part thereof. Fig. 3 is a vertical longitudinal section of the same when the breech is open.

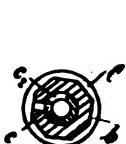


FIG. 9.

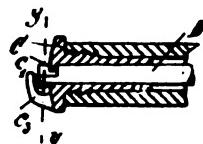


FIG. 10.

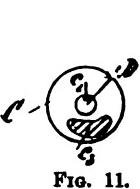


FIG. 11.

Fig. 4 is a vertical longitudinal section when the breech is closed, showing the firing-pin in its cocked position.

Fig. 5 is a horizontal section showing the breech-bolt partly drawn back, and the firing-pin in its cocked position.

Fig. 6 is a side view of the breech-bolt, and Fig. 7 a rear view of the same.

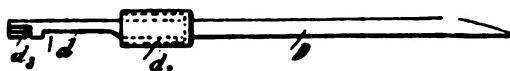


FIG. 12.

Fig. 8 is a longitudinal section of the rear end of the breech-bolt, showing the breech-bolt screw in elevation. Fig. 9 is a cross section on the line *x-x* Fig. 8. Fig. 10 is a longitudinal section of the rear end of the breech-bolt, showing the breech-screw in section, and Fig. 11 is a cross section on the line *y-y* Fig. 10.

Fig. 12 is a side view of the firing-pin.

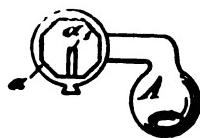


FIG. 13.

Fig. 13 is a rear view of the breech-handle and socket. Fig. 14 is a plan, Fig. 15 is a side view, and Fig. 16 a horizontal section of the improved magazine.

Fig. 17 is a front view of the breech-casing without a magazine, and closed by the slide.

Fig. 18 is a cross section of the breech-casing and magazine.

Fig. 19 shows the breech-slide of the breech-casing in upper side and end view.

Fig. 20 is a rear view of the breech-casing without a magazine, with a breech-slide on.

Fig. 21 is a cross section of the stock, showing the means for securing the breech-slide.

Fig. 22 is a cross section of the breech-casing without a magazine, showing the spring cheeks which, when using the fire-arm as a single-loader, support the cartridge.

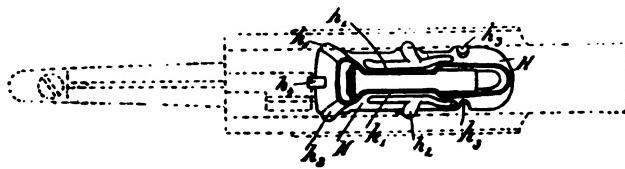


FIG. 14.

Fig. 23 is a side view of the rear end of the breech-casing with the breech-slide in place, and Fig. 24 is a cross section of Fig. 23.

Fig. 25 is a side view of the breech-casing, showing the arrangement of the spring trigger-guard for holding the magazine, and of the spring cheeks for closing the cartridge-discharge opening of the magazine.

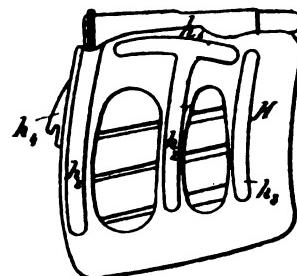


FIG. 15.

Fig. 26 is a plan view of the spring cheeks shown in Fig. 22, with which the spring for lifting the small block behind the charging chamber is connected.

It will be observed that in Figs. 4 and 18 in the socket *a*, carrying the breech-handle *A*, is inserted a pin *a'*. This pin extends through a helical slot *b'*, in the rear end *b*

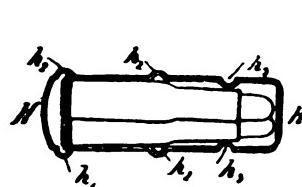


FIG. 16.

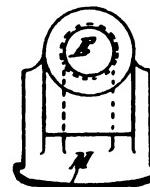


FIG. 17.

of the breech-bolt *B*, and through a similar slot *c'* of the breech-bolt screw *C*, into a recess *d*, at rear end of the firing-pin *D*. The rear end *b* of the breech-bolt is constructed like a polygonal screw. Through this the

firing-pin D is moved to the cocked position by the pin c^1 , engaging with the recess d during the back motion of the breech-handle socket a upon the rear end b of the breech-bolt B. This motion disengages the breech-rib b^3 from the corresponding recess e of the breech-casing E. In this way the striking pin d^1 is compressed and bears

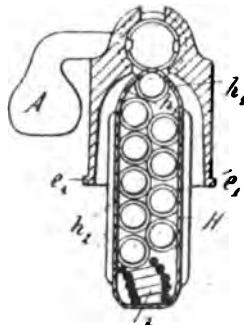


FIG. 18.

upon the breech-bolt C, and at the other end on the hollow collar d^2 of the firing-pin D. When the breech-bolt B is drawn back, the rear spring end of the bar F, connected with the cartridge extractor, leaves the groove and passes in front of the breech-handle socket a , so that the latter cannot be moved, and consequently the striking-pin d^1 must remain compressed.

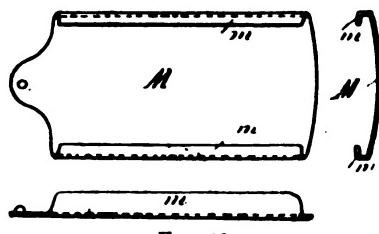


FIG. 19.

It will be readily understood that when the breech-bolt B is pushed forward to close the breech, the rear spring end of the bar F (which, owing to its elasticity, has left its groove in the breech-bolt on the breech being opened) is pressed into the groove again as soon as it



FIG. 20.

begins to re-enter the receiver or breech-casing E. In the moment when the front end of the breech-bolt B reaches the rear end of the barrel, the spring end of the bar F has fully re-entered the corresponding

groove of the breech-bolt B, and the breech-handle socket a is free to be moved forward along the screw-shaped rear end b of the breech-bolt, for the purpose of turning in the breech-rib b^3 .

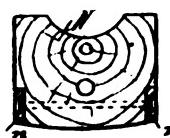


FIG. 21.

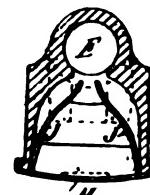


FIG. 22.

If the breech-bolt B is pushed forward again, the catch or sear g , which extends into a corresponding longitudinal slot b^3 of the breech-bolt, passes in front of the hollow collar d^2 of the firing-pin D, and keeps the striking spring d^1 cocked at the moment when the breech-handle socket a begins to move forward again upon the

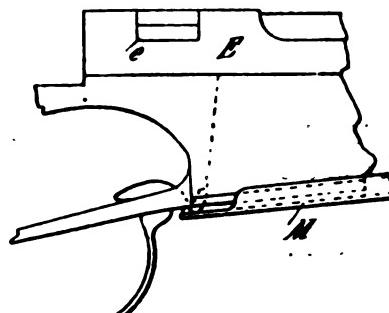


FIG. 23.

polygonal screw-shaped end b of the breech-bolt, in order to turn in the breech-rib b^3 .

The firing-pin D is provided at its rear end with an angular groove d^3 , into which extends a pin c^1 arranged upon the breech-cylinder screw C. This arrangement

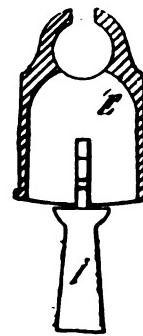


FIG. 24.

has for its object to prevent the accidental firing of the gun, the cylinder screw C being turned into such a position that the pin c^1 enters the transverse part of the groove d^3 .

To render this turning motion of the screw C possible, despite of the pin a^1 penetrating into it, the groove c is provided with a transverse branch groove c^2 . The lug c^3 by which the screw C is operated is bent beyond the middle of the screw, so that it forms at the same time a guard for the protection, against the gases, of the person using the weapon. Accidental turning of the firing-pin D is

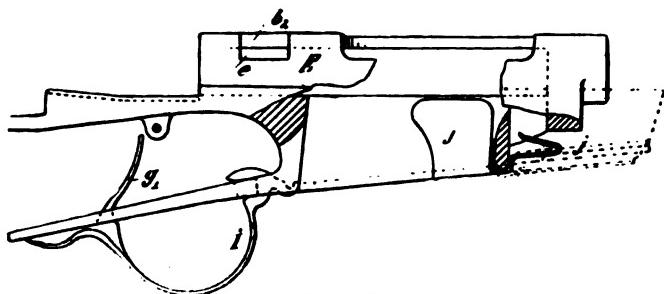


FIG. 25.

prevented by the plane end surface of this pin a^1 bearing continually against the plane surface of the recess d .

The magazine H is a small sheet metal casing, the walls of which have several openings, and the transverse dimensions of which are somewhat less than double the diameter of the cartridge, so that two piles of cart-

ridges find room in this magazine only in such a manner that each cartridge penetrates tangentially between two cartridges of the other side.

Below both piles of cartridges is placed a common helical spring h, as before mentioned (the pressure of which forces the piles of cartridges against the upper opening) bounded by spring lugs h_1 , h_1 on the magazine. As often as the advanced breech-bolt carries away the uppermost cartridge extending into its path, and pushes it into the charging chamber, a cartridge of the other

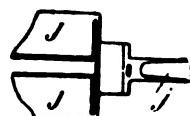


FIG. 26.

pile takes its place. For stiffening the walls of the magazine a rib h^2 , convex to the outside, is formed upon the bridge between the openings. Moreover, in each side wall of the magazine another rib, h^3 , convex to the inside, is pressed in such a manner that these two ribs constitute the sole bearing points for the cartridges, thus reducing friction to a minimum, and the more because rolling is substituted for sliding friction.

NAVAL AND MILITARY NOTES AND QUERIES.

FIRST LORDS OF THE ADMIRALTY.—The Board of Admiralty has been supplied with "First Lords" of no mean note in the archives of their country. In those who have occupied this important and difficult position, neither activity, vigilance, method, nor benevolence has been wanting. Indeed, so useful a class have these statesmen formed in themselves, that we have often thought that a work comprising their memoirs and official acts would be a most acceptable addition to our historical libraries. They may be distinctly traced from Alfred the Great, who was Lord High Admiral between the years 872 and 900, down to the present commission, by anyone who has sufficient time and tact, with zeal and industry, to support and prosecute the inquiry. Should this be deemed too formidable an undertaking, we would suggest the period between the two "Sailor Kings" as one of exceptional maritime interest; an assertion which may be clearly illustrated by the following enumeration of their names and times:—

1685, James II., Lord High Admiral; 1688, Arthur Herbert; 1689, the Earl of Pembroke; 1692, Earl Cornwallis; 1693, Viscount Falkland; 1694, Edward Rus-

sell; 1699, the Earl of Bridgewater; 1701, the Earl of Pembroke, Lord High Admiral; 1702, Prince George, Lord High Admiral; 1708, the Earl of Pembroke, Lord High Admiral; 1709, the Earl of Orford; 1710, Sir John Leake; 1712, the Earl of Stafford; 1714, the Earl of Orford; 1717, the Earl of Berkeley; 1727, Viscount Torrington; 1733, Sir Charles Wager; 1742, the Earl of Winchelsea; 1744, the Duke of Bedford; the Earl of Sandwich; 1751, Lord Anson; 1756, Earl Temple; 1757, the Earl of Winchelsea; 1758, Lord Anson; 1762, the Earl of Halifax; 1762, George Grenville; 1763, the Earl of Sandwich and the Earl of Egmont; 1766, Sir Charles Saunders and Sir Edward Hawke; 1771, the Earl of Sandwich; 1782, Viscount Keppel; 1783, Viscount Howe, Viscount Keppel, and Viscount Howe; 1788, the Earl of Chatham; 1795, Earl Spencer; 1801, Earl St. Vincent; Viscount Melville; 1805, Lord Barnham; 1806, Hon. Mr. Grey and Right Hon. T. Grenville; 1807, Lord Mulgrave; 1810, Hon. C. Yorke; 1812, Viscount Melville, 1827, Duke of Clarence, L.H.A., afterwards William IV.

R. O'BYRNE.

A NEW TORPEDO INDICATING LIGHT-GEAR.



THE essential novelty in this invention, due to Mr. J. S. Comrie, is an arrangement by which the greater part of the indicating light-gear is embodied in the bulk of the weapon. The invention is applicable to the indicators already in use—hollow castings in the form of an elongated cone, containing, as a rule phosphide of calcium, which, when coming in contact with the water, after the torpedo is launched, emits vapour, smoke or flame, thus showing the

on the indicator lights; but Mr. Comrie dispenses with these, and substitutes the wings *aa* (Figs. 1 and 3) on the nozzle-blocks. In these wings are holes *b b*, through which the wire used for attaching the light *B* to the nozzle *A* may pass. *C* is the flame hole of the indicator light, through which the water obtains access to the phosphide of calcium, and through which, also, the flame issues when the light is operating. This hole is usually kept covered until the light is to be used. In torpedoes discharged from the deck, no further provision is necessary; but in submerged torpedoes it is necessary

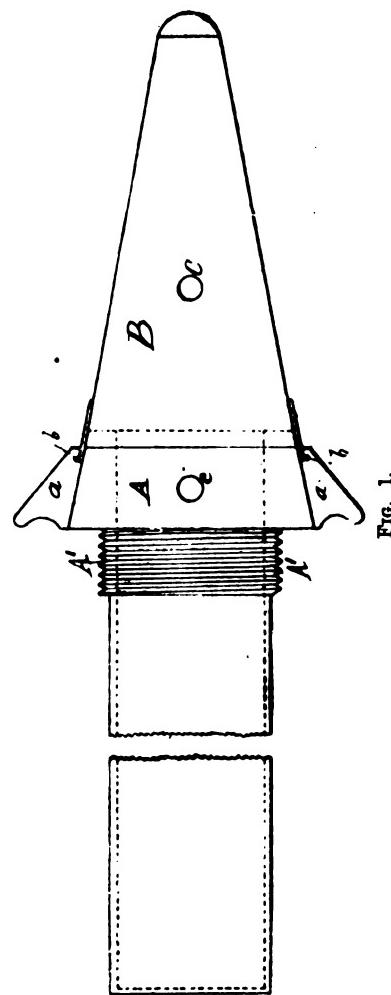


FIG. 1.

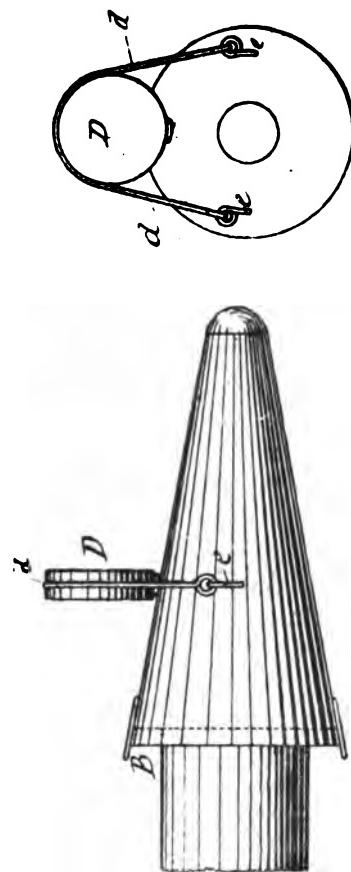


FIG. 2.

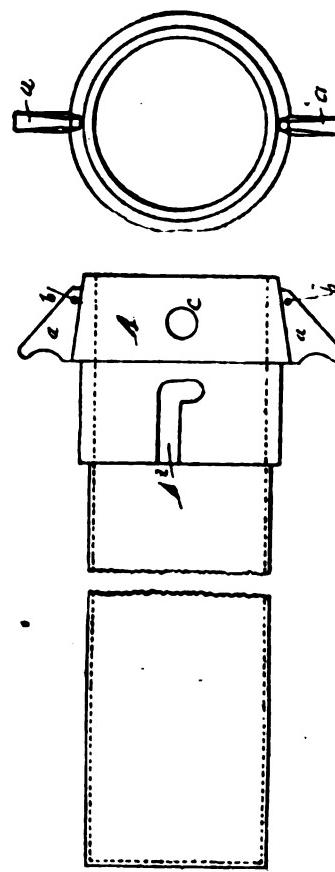


FIG. 3.

path of the projectile. The long cylindrical portion of the indicator, *B*, fits into a suitable recess in the nozzle block *A*. The latter is attached to the torpedo by the screw thread *A'* (Fig. 1) fitting into a correspondingly threaded aperture in the projectile, or by means of a bayonet joint, the slot of which *A''* (Fig. 3) slips over a pin in the torpedo. A hole *c* is provided for inserting the point of any instrument which may serve to facilitate the revolution of the nozzle-block when it is being affixed to the torpedo.

It has hitherto been usual to provide wings or fins

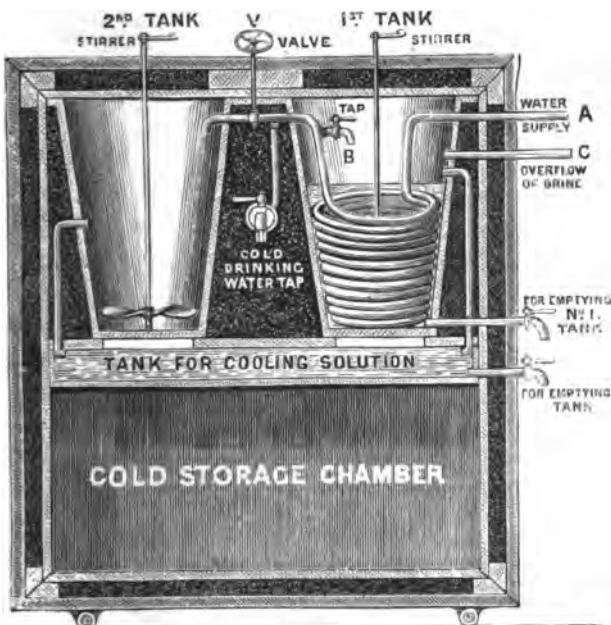
to remove the permanent covering from the flame hole, and yet prevent the entrance of the water until the torpedo is launched. This is effected by the arrangement shown in Fig. 2. A disc, having at its lower part a piece of indiarubber, is pressed over the flame hole so as to close the latter under normal conditions, but to be removable by the pressure of the water when the projectile is in use. Two eyelets, *ee*, fixed upon the indicator, serve as a hinge upon which the strap *d* swings. *D* is the disc, which may be constructed either of cork or wood, with a piece of indiarubber, *f*, attached to it.

INVENTIONS APPLICABLE TO THE SERVICES.

THE EUREKA ICE MACHINE AND REFRIGERATOR, AND THE ARMY FIELD REFRIGERATOR.

WHILE admitting the many advantages of ice *per se* when pure, it should be remembered that the use of melting ice causes a *moist* air which is always injurious to the wholesome keeping of provisions, and, as most people are aware, fish and other provisions if kept long in ice become flavourless, or almost so. Experience has proved that ice is a decomposing agent to some extent, as the perishable articles are saturated with the vapour, and, when removed, rapidly deteriorate. The moisture in time likewise affects and causes the wood of the cooling chamber to decay. In the ordinary household refriger-

General Refrigeration which has ever been perfected. Its great economy and many advantages over the old style of cooling by natural ice, has secured the endorsement and adoption of many energetic and progressive brewers, packers, and butchers, and other industries requiring extensive refrigeration. Everything heretofore invented in this line has been worked with a dangerous and expensive gas, known as anhydrous ammonia. The explosion of a carboy of anhydrous ammonia is of frequent occurrence, accompanied with destruction to buildings and loss of life.



rator, the damp air absorbs all odours, and communicates them, so that everything is soon contaminated and injured. This loss following the use of ice is very great, and renders artificial refrigeration far more desirable even at a much higher price than ice, owing to the cold air being perfectly dry, sweet, and wholesome.

Previous to this present method to be described further on, mechanical refrigeration has been attainable by the larger establishments having capital to expend for the machinery, appurtenances, and employment of labour needed in its management. After long experiment and thorough investigation, refrigerating by artificial means has been reduced by the Eureka Company to a basis that enables them to offer to the public the most complete, simple, safe, and economical System of

The patentee of the Eureka Ice Machine and Refrigerator uses a harmless salt. His system involves no power, pressure, foundations, gauges, water for condensation, dangerous carboys, complicated machinery, nor experienced engineers. One of the most important features to which consideration has been given, has been the reduced expense and great saving of valuable storage room.

By a simple combination of two elements of nature, water is brought to the freezing point in three minutes, instead of as many days, as with gas machines. Any boy, woman, or man can manage this machine. At a practical exhibit which we attended the other day, the "Family Machines" struck us as being very handy. They are capable of making ten pounds of ice an hour if

required, in addition to the ice water and the refrigeration that may be needed for meat, fish, butter, &c. We also saw a somewhat larger one, well suited for messes, hospitals, and other large establishments, and on board ship. To sum up their advantages. These machines are much lower in price than any others now in use. They will produce ice at a much lower cost, and without complicated machinery. The system is purely automatic, with the exception of a few moments' attention at the commencement and close of the day. The solution of the problem of producing cold without scientific machinery by any boy, woman, or man, in the warmest climate. The cost of the chemicals required for the machine, as compared with the ice of the old one, is infinitesimal. The salts used are furnished with each machine, in quantity sufficient to last one year, and can be purchased afterwards at a small cost. No wear or tear, or getting out of order. The contact is that of a *pure dry air*, as compared with a *moist air* in the ordinary machines.

We furnish two illustrations of the refrigerators of this company, as inspected by our representative. Block No. 1 shows the ice-making machine and refrigerator combined

Directions.—1. Connect the inlet pipe marked A to town water supply, or, where this is not available, to a vessel fixed about four feet above the top of the refrigerator. See that all valves are closed, and place about 8 lbs. of nitrate of ammonia salts in the right hand or No. 1 tank, and add water from the tap (B) until one or two turns of the coil of piping are covered. Agitate the water with the stirrer to dissolve the salt, and let it stand a few moments, so that the cold may penetrate to the fresh water within the coil, then add more water, until one or two more turns of the coil are covered, and repeat the operation until the coil is quite covered. The temperature of the brine in this tank should in no case be *less than 28° or more than 34° Fahr.*

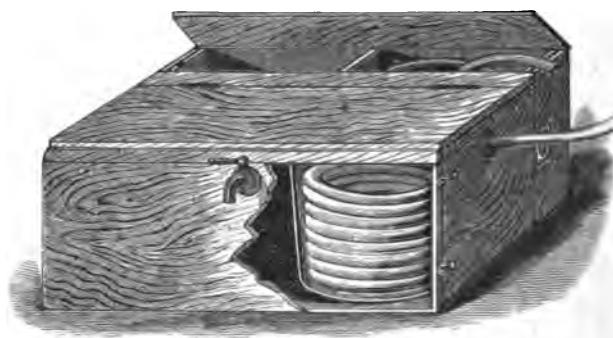
2. Place about 15 lbs. of nitrate of ammonia in the left hand or No. 2 tank. Open the valve (V) at the top of the refrigerator, and partially fill the tank with cold water. Allow a short interval of time before opening the valve again (for the water in the coil to become cooled), and note occasionally, by means of a thermometer, the temperature of the brine in the No. 2 tank; if this is found to rise above 14°, add more nitrate of ammonia. When the water passes through the overflow pipe (C) in No. 1 tank, close the valve (V) and agitate the brine in No. 2 tank for a few minutes.

3. Should the temperature in the cold storage-chamber rise too high, open the valve (V) and allow the cold water to run a few moments, and, if necessary, add a little more nitrate of ammonia, when the desired temperature will be attained. In ordinary practice, it is best to charge No. 2 tank morning and evening with

about 8 lbs. of nitrate of ammonia to keep up to an even temperature.

4. For the greater efficiency of the machine, every few days the brine in No. 1 tank should be drawn off and added to the overflow. In such cases, bail out No. 2 tank into the then empty No. 1 tank. Then add nitrate of ammonia to No. 2 tank, open the valve (V) and proceed as before.

THE ARMY FIELD REFRIGERATOR.—The late Colonel Valentine Baker was much struck with the Eureka Refrigerator, the rapidity with which iced water was obtainable, and the general simplicity of the machine. It at once occurred to his practical mind what immense



value such a machine would be, if it could be brought on to the battle-field to benefit the sick and wounded when at war in hot climates such as Egypt and India. Dr. W. F. Chapin, who happened to be present on the occasion of Colonel Valentine Baker's visit, was so struck with the significance and value of the suggestion, that he



at once set to work to realise and practically carry it out. This Army Field Refrigerator, is an adaptation of the "Eureka" refrigerator which, by its compactness and portability, should meet all the requirements of the service, and form an integral part of the armamentarium of the Army Hospital Corps. The Army Field Refrigerator is collapsible, and when open and in use, it measures 8 ft. by 2 ft. by 1 ft. 6 in. When closed for

transport, its dimensions are 3 ft. by 10 in., by 1 ft. 6 in., and its weight is under 100 lbs. when packed with a sufficient quantity of nitrate of ammonia (the chemical agent used, which has the property of cooling any liquid to which it is added) for four days' use. Two of these Field Refrigerators could easily be carried by a mule or camel, and one by two coolies, on their shoulders, suspended from a bamboo. Dr. Chapin demonstrated their utility at a large gathering of officers and army surgeons a short time since, who expressed their satisfaction at the ingenious and satisfactory manner in which Dr. Chapin had carried out Colonel Baker's idea. The Field Refrigerators should prove not only a boon on the battle-field, but on the line of march in tropical climates, and in the hot weather on field days at Aldershot, on which occasions they might easily be carried on tricycles. The Army Field Refrigerator is capable of producing 5 lbs.

of ice per hour, and of cooling eight gallons of water to a temperature of between 30° and 40° Fahr. during the same period.

The apparatus consists of two collapsible india-rubber buckets, one of which contains a coil of india-rubber tubing. This coil is placed in one of the buckets, and is immersed in the nitrate of ammonia solution. The water, when passed through the coil, is rapidly cooled, and forms a supply for drinking and many surgical and medical purposes. For refrigerating purposes and making ice, some of the water which has already been cooled is run into the second bucket, and nitrate of ammonia is added to it, forming the freezing mixture. The machines can be seen at work at 100c, Queen Victoria Street, where officers can obtain every information from the courteous Secretary of the "Eureka" Refrigerating Company, Limited.

"THE HAVERSACK."

THE ROYAL MILITARY RIDING SCHOOL: GLouceSTER CRESCENT, HYDE PARK.—The weekly afternoon musical rides at the above spacious school terminated on Wednesday the 14th of March. During the past trying season, when riding in the Park and elsewhere was rendered almost impracticable, these pleasant equestrian *rénunions* have proved most acceptable. On the occasion of our visit, there were between forty and fifty riders, and the scene from the ladies' gallery was very animated and pretty. The squadron, if we may so call it, was divided into two sections, one led by Captain Fitzgerald, the other by the lady rider of the establishment assisted by two military riding-masters. The evolutions were executed to the sound of a good band. Of course the riders showed various degrees of proficiency, the exercises being planned to bring in the learners as well as to afford scope for the experts. The more ordinary evolutions, in which all took part, were admirably adapted to teach the guidance and control of the horse, to be handy when riding in the Row, where a series of rapid turnings through limited passages is often required. Between the evolutions, the lady rider of the establishment, introduced her handsome Manège mare, which she has trained to trot over bars, and jump a gate

envoloped in flames. These feats she accomplished with the greatest ease, and was loudly applauded by the onlookers. These weekly musical rides are very pleasant gatherings, and admirably planned. Captain Fitzgerald, the proprietor, commenced his military career in Her Majesty's 97th Foot—poor Hedley Vicars' regiment—was wounded in the Crimea, and served throughout the Indian Mutiny. When invalided, having always had a great aptitude for training horses, he established the above school for teaching yeomanry and volunteer officers to ride, and also ladies, gentlemen, and children. The school being in the neighbourhood where army tutors most do congregate, an opportunity is available for military candidates to acquire the art of riding, and to enjoy in the winter the musical, and in the summer the country, rides which have proved in many cases highly beneficial and invigorating to the overwrought brain, and are a form of exercise strongly recommended by the medical profession. There are about fifty horses in the stud, trained to suit all classes of riders. The Royal Military Riding School has the honour of supplying Her Majesty and the Court with saddle-horses, and is under the patronage of the Commander-in-Chief.

REVIEWS.

BOOKS OF REFERENCE :—

1. *Sobriquets and Nicknames*. By ALBERT R. FREY. (London : Whittaker and Company, Paternoster Square.)
2. *The Service Almanack*, 1888. (Harrison and Sons, Pall Mall.)
3. *The British Roll of Honour*. By Professor P. L. SIMMONDS, F.L.S., F.R.C.I. (Dean and Son, 160A, Fleet Street, E.C.)
4. *The India List, Civil and Military*. With complete Index. (W. H. Allen and Co., 18, Waterloo Place, Publishers to the India Office.)
5. *The Royal Navy List*. By Lieut.-Colonel FRANCIS LEAN. (Witherby and Co., High Holborn and Cornhill.)
6. *Tobacco Leaves*. By BEWLAY (49, Strand.)
7. *Puddings and Sweets, 365 Receipts*. By LUCY JONES. (Allen and Co., Waterloo Place, S.W.)

THE reader will find in *Sobriquets and Nicknames* a variety of most interesting information, devoted to the explanation and derivation of these witty, and, in some instances abusive appellations. Mr. Albert R. Frey, of the Astor Library, New York, is responsible for the larger bulk of the volume, and to Mr. Edward Denham, of New Bedford, Mass., is the credit due of having written the most exhaustive paper that has yet appeared on "The Man in the Iron Mask." Quidnuncs and *littérateurs* will find this volume a mine of wealth, and to the general reader and student *Sobriquets and Nicknames* will prove a delightful book of reference.

Messrs. Harrison's *Service Almanack* is a most useful publication, containing, as it does, all information about the army and auxiliary forces in a handy form, suitable for instant reference. It is just the sort of book officers like to have with them in barracks and camp.

The British Roll of Honour is another of those useful books of reference for which Messrs. Dean and Son are renowned. It is a complete record of British subjects who have been decorated with, and enrolled in, the various orders of chivalry during the past fifty years. Professor P. L. Simmonds has done his work well, and no record of honours bestowed for important services rendered to the State are more carefully narrated than his own. The work will be welcomed by a large circle of readers, as it is the only one we know of exclusively devoted to the order of chivalry, and the author adds: "There is a further reason for this publication, inasmuch as it proves that, though we have no Order of Merit in England for civilians, foreign Sovereigns have not been slow to bestow marks of distinction on Englishmen who have become eminent in the several branches of literature, art, science, or manufactures." We cordially recommend Professor Simmonds' book as being a valuable and trustworthy work of reference.

The bi-annual appearance of Allen's *India List* is always looked forward to with pleasure by Anglo-Indians,

containing, as it does, the fullest information on all matters connected with the Civil, Military, and Home departments of our Indian Empire. In the fourth or miscellaneous division will be found a mass of information referring to the various Orders, Regulations for admission to Civil Service, Staff Corps Regulations, Family Pension Fund, &c. &c., not to be found in any other book relating to India; thus offering to candidates who contemplate an Indian career every information, which, thanks to a good Index, can be readily referred to, and fully relied upon, bearing, as Allen's *India List* does the *imprimatur* of the Secretary of State for India in Council.

The Royal Navy List contains much valuable information, and to those people who prefer studying *Bradshaw* to the *A.B.C. Railway Guide* no doubt it is a very interesting work. Unfortunately, time with the *littérateur* is money, and, therefore, he cannot afford to waste time in ferreting out the war services of a naval officer by an unknown number. He requires their names alphabetically arranged, as they are in "Hart's." Again, the services of many naval officers are incorrectly stated. If a little care and method are exercised in the next number, these solecisms could easily be corrected, and the *Royal Navy List* rendered a trustworthy and ready reference in all matters appertaining to the navy.

Tobacco Leaves by Bewlay is an amusing *feuilleton* about the pros and cons of tobacco-smoking as practised by the present generation. The chapter on cigarette-smoking is amusingly written and worth reading. Dr. Richardson's views, as well as those of the late Sir Benjamin Brodie, are given *in extenso*; and although Mr. Bewlay shows himself to be an anti-Jacobite, he has clearly, and without prejudice, explained that the so-called evil results of tobacco-smoking are almost *nil*.

Mess Presidents, when they are arranging, as in India, to invite the ladies in the station to dinner, or in this country, where they are contemplating a *réunion champêtre*, will be able, without difficulty to themselves or the cook, to make a selection of *Puddings and Sweets* from Lucy Jones's 365 receipts that will considerably add to the success of the entertainment, and secure for the M.P. and his *fidus Achates*—the cook—blushing honours.

Under Fourteen Flags. Being the Life and Adventures of Brigadier-General MacIver, a Soldier of Fortune. (London : Spencer Blackett.)

In the Crimea, it was said no book was so eagerly perused by the officers and men as the *The Three Musketeers*, the adventures and escapades of d'Artagnan being the theme of admiration. Mr. Spencer Blackett, with admirable judgment, has selected as a first of a series of Military Life and Adventures that of Brigadier-General McIver, a soldier of fortune. The biography,

full of adventure and hair-breadth escapes, reads like one of Dumas's novels, and will command a wide circulation in the camps and barracks of the British army. There is not a dull chapter in the book.

A Manual of the Andamanese Languages. By M. V. PORTMAN, M.R.A.S., F.R.G.S., F.S., etc. (London : W. H. Allen & Co, 1887.)

The deep interest which has long attached to the inhabitants of the Andaman Islands, will cause this book to be eagerly sought for, not only by students of language, but by all students of the human race. It has also a practical value; for it is drawn up for the express purpose of enabling those who use it to converse with the primitive people occupying these remote islands. In truth the Andamanese are, in one respect, the most remarkable people on the face of the earth; because they are now living the life of prehistoric man, with habits and ideas but little above those of the lower animal creation. They are now, to all appearance, acting in the same manner as the antique races of Europe, who left behind them the *kitching middens* of Norway, and the stone and bone relics collected in our museums. The savage hate and dread of man evinced by the Andamanese is similar to that of wild animals; and this ferocity has preserved them from all admixture with the outer world.

The great Indian Mutiny created the necessity for a place of transportation; and the Andaman Islands being selected for that purpose, the strong hand of England began the work of humanizing these curious survivals. Almost nothing has as yet been done, though many efforts have been made; but Mr. Portman has had the tact to win their confidence, and to learn several of their languages. In the small compass of these islands there are probably a dozen or more different dialects, which differ greatly from each other in vocabulary, though closely allied in grammatical structure. Five of these dialects are illustrated in Mr. Portman's book; and they will do much to settle the racial affinities of the islanders. They are certain to be scanned with much eagerness by scholars in Europe; for it is the first time that any of these languages have been reduced to writing. It is, therefore, a remarkable book, and has evidently been prepared with great care.

The Silver Trout. By SIR RANDAL H. ROBERTS, Bart. ("Light Cast"). (London : W. H. Allen & Co.)

A happy thought has induced "Light Cast" to

publish in a collected form a portion of those excellent stories he has contributed from time to time to the leading sporting journals.

The story of the Silver Trout, which gives the name to the book, is well told, and will be read with pleasure not only by the votaries of the gentle craft, but by many others who can appreciate the beauties of nature when described by a reverent observer.

Sir Randal Roberts' stories show him to be a good all-round sportsman, possessing a wide range of experience. His account of the famous Waterloo run with the Pytchley, in 1866, is exceptionally good, and those who remember Sir Randal in former days with Mr. Garth's hounds will accredit him with riding as straight as most of the followers of that renowned pack. He infuses into all his stories that genuine ring of love for sport that cannot fail to attract the rising generation; and whether the bent of their minds will lead them to follow as a pleasant pursuit, hunting, fishing, shooting, or yachting, they cannot do better than read *The Silver Trout*, which contains stories and essays on all these subjects, interwoven with practical hints that will always prove valuable.

Recollections of Forty Years. By FERDINAND DE LESSEPS. Translated by C. B. PITMAN. In two volumes. (London : Chapman and Hall, Limited.)

To English readers, the most interesting parts of this book are those chapters in which M. de Lesseps tells, at considerable length, the story of how, in the face of the stubborn and unreasoning opposition of Lord Palmerston and other English Ministers, he carried through his project of making the Suez Canal. As the translator justly says: "The unflagging energy, the indomitable perseverance, the never-failing good humour with which he met all difficulties and fought against every kind of obstacle, convey a lesson which ought not to be thrown away upon the half-hearted, and upon those who are always ready to take no for an answer." The chapters on the origin of the Suez Canal will no doubt be eagerly perused, being an authentic account, arranged in chronological order, of the difficulties, both diplomatic and engineering, which M. de Lesseps gradually overcame, leading to the accomplishment of the Suez Canal. The book will, no doubt, be largely read, as it deserves to be. It is full of incident and adventures, and shows in a very agreeable manner the determination of M. de Lesseps to overcome every difficulty. Mr. Pitman's translation is excellent.



SUMMARY OF ARTICLES IN FOREIGN SERVICE MAGAZINES.

REVUE DU CERCLE MILITAIRE—ARMÉES DE TERRE ET DE MER. (Paris : 37, Rue de la Bellechasse.) February 19th and 26th, and March 4th, 11th, and 18th, 1888.

The Camp of Warsaw—Study on the Methods of Musketry Instruction for Infantry—The Neutrality of Northern Savoy and the New French Railways.

REVUE DU SERVICE DE L'INTENDANCE MILITAIRE. (Paris : Victor Rozier, 26, Rue Saint Guillaume.) January and February 1888.

Studies on the Commissariat in the Campaign of 1806-1807—Resumé of Official Experiments in the Preservation of Flour—The History of Army Administration in France.

REVUE DE CAVALERIE. (Paris : Librairie Militaire Berger Levrault et Cie., 5, Rue des Beaux Arts.) February 1888.

The Battle—The Three Colberts, by General Thoumas (*continued*)—History of the German Cavalry in 1870-71 (*continued*)—Tactical Directions for the Formation and Employment of the Cavalry Division—The Use of the Sabre.

REVUE MILITAIRE BELGE. (Bruxelles : Librairie Militaire C. Muquardt.) No IV. 1887.

The Advance and Offensive Action of a Division—Military Ballooning and Pigeon Services—The Franco-German War of 1870-71.

JOURNAL DE LA MARINE. Le Yacht. (Paris : 50, Rue Saint Lazare.) February 18th and 25th, March 3rd, 10th, and 17th, 1888.

The Italian Torpedo-Boat *Fatum*—Coast Defence—A New Submarine Electric Torpedo-Boat—The English Naval Estimates—The Creusot Armour-Plates—The Italian Navy.

REVUE D'ARTILLERIE. (Paris : Berger Levrault et Cie., 5, Rue des Beaux Arts.) February and March 1888.

The Interior Strains of Cast-Iron and Steel (*continued*)—Sighting and Training Guns in the German Artillery—The Photography of Phenomena caused by the Passage of a Projectile through the Air—Aphorisms on Manœuvres—The New German Army Bill.

REVUE DU GENIE MILITAIRE. (Paris : Berger Levrault et Cie., 5, Rue des Beaux Arts.) January and February 1888.

Notes on Mortar and Asphalte used in Fortification—The Lighting of Workshops (*concluded*)—The Engineer Service in the Fortresses of Germany.

REVUE D'INFANTERIE. (Paris : Henri Charles-Lavauzelle, 11, Place Saint-André-des-Arts) January, February, and March 1888.

A Historical Study of Military Pay—Night Fighting—Notes on the Operations of the 3rd Battalion of the Foreign Legion in Tonquin—The Use of Pigeons in War.

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTEN. (Cassel : Verlag von Theodor Fischer.) March 1888.

The Military and Political Aspect of the Fight for Constantinople (*concluded*)—The Wood of Mey : Tactical Details of the Battle of Colombey-Nouilly (14th August 1870)—The Use of Explosives as a Motive Power for Engines—Hotchkiss Quick-Firing Guns—Napoleon as a General (*continued*)—The Cruisers of the World (*continued*)—Service in the Russian Army in the Summer and Autumn of 1887 (*concluded*)—The Italian Red Sea Expedition.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) March 1888.

The Siege of Mainz in 1793 (*concluded*)—The Diary of a Volunteer Jäger 1813-15 (*concluded*)—The Military History of the Year 1808 in Spain and Portugal.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESENS. (Pola : Druck und Commissionsverlag von Carl Gerold's Sohn in Wien.) Nos. I. and II., 1887.

The Organization of a Modern Fleet—Naval Legislation and Naval Law—The Dynamite Gun—Submarine Boats—French Torpedo-Boats.

RIVISTA DI ARTIGLIERIA E GENIO. (Roma : Tipografia e Litografia del Comitato d'Artiglieria e Genio.) January 1888.

Some Suggestions for the Field Artillery—The Italian Field Artillery—The Supply of Ammunition on the Battle-field—Modern Rifles.

RIVISTA MILITARE ITALIANA. (Roma : Voghera Carlo, Via Nazionale.) February 1888.

The (Italian) Grand Manœuvres in Emilia—Notes on Recruiting—The Use of Camels for Military Purposes.

RIVISTA MARITTIMA. (Roma : Tipografia del Senato.) February 1888.

The Corinth Canal—The Italian Naval Estimates (*continued*)—Notes on the Organization of Coast Artillery—The English Naval Intelligence Department—The Pneumatic Dynamite Gun.

ILLUSTRAZIONE MILITARE ITALIANA. (Milano: Via Santa Margherita, 9.) 1st and 15th March 1888.

The German Army—Field-Marshal Count von Moltke—The Massowah Expedition—The Death of the Emperor William.

ARMY AND NAVY JOURNAL. (New York: 240, Broadway.) February 18th, 25th, March 3rd and 10th, 1888.

The Fisheries Treaty—Modern Ships of War—Recruiting for the (U.S.) Army—Exercises for Foot-Troops—Militia Defects and their Remedies.

ARMY AND NAVY REGISTER. (Washington: 1,420, Pennsylvania Avenue.) February 18th, 25th, March 3rd and 10th, 1888.

Sherman and Halleck—Captured Battle-Flags—The Autumn Field Manœuvres in Arizona—Rifle Practice,

1887—An Appropriation for Coast Defences—Pay of the Officers of the Line and of the Engineer Corps of the Navy.

THE RIFLE. (Boston, Massachusetts, 4, Exchange Place.) March 1888.

Smokeless Powder—Revolver Shooting at Wimbledon—Machine Guns.

YOUNG AUSTRALIA, THE NAVAL AND MILITARY GAZETTE. (Melbourne: 130, Collins Street, West.) January 1888.

Federal Defence—Treatment of Foreign War-ships in Time of Peace—The Defences of New Zealand—Tactics: the Three Arms in Defence—The Defences of New South Wales.

AT THE PLAY.

At the OLYMPIC Mr. Yorke Stephens has produced Messrs. Lynwood and Ambient's romantic drama, "Christina," with equal discrimination and liberality. The scenery and mounting of the four acts are handsome, and the cast that has been provided an excellent one, including, as it does, Mr. Willard, Mr. Frank Archer, and Miss Alma Murray, besides the manager himself. The play itself—originally produced at a matinée—has many faults of construction, the most noticeable of which is the want of clearness with which the main incident of the document signed by the heroine's father is explained. All turns on this point, and on Count Freund's treachery concerning the same, and the audience should therefore be left in no doubt from the first as to the purport of the document and the consequences of its retention by the treacherous friend. Another weak point is the hurry with which the *dénouement* is brought about, the rapidity with which the various stabbings—or attempted stabbings—take place, and the unexplained recovery of the prince just as the curtain falls. We cannot help also thinking that the unpleasant scene in which the heroine feigns to listen to Count Freund's love while she is preparing to assassinate him is out of character with the picture previously drawn of the princess, and a mistake in art.

The acting, however, redeems the piece. Miss Alma Murray is always refined and intelligent in her rendering of a part, and it says much for her that she is able to render even the scene alluded to above effective and not offensive. Mr. Frank Archer's quiet style is admirably suited to the part of the Editor, and nothing can be better in its way than his acting in the third act—the best written and most effective

in the play, though somewhat suggestive in its motive and plan of the scene between Mildmay and Hawksley in "Still Water's Run Deep." The part of the Editor is somewhat unreal perhaps, but dramatically it is effective and interesting. Mr. Yorke Stephens is hardly suited in the colourless part of the lover, but perhaps makes the most of his few opportunities. Mr. Boleyn is adequate as Prince Koroskoff, and Miss Rose Leclercq shows her usual fault of over-emphasis as Madame Morozoff. A word of praise should also be given to Mr. Robson and Mdlle. Dairolles for their bright rendering of the comic scenes of the play. The chief feature, however, is, of course, Mr. Willard's performance of the villain's part, which is a finished study of first-rate excellence, especially in the third act, where every tone and action has its due weight and meaning. It is not the actor's fault that Count Freund's line of action in the second act with the princess strikes one as crude and inartistic for so clever a schemer. Miss Helen Leyton, an actress of much promise, does well the short scene that falls to her lot, and is also clever in "Good for Nothing," which precedes the drama, though she cannot make us forget Mrs. Bancroft's Nan. The management cannot be congratulated on the services of Mr. Smedley Yates; his Irishman is absolutely un-Irish, and recalls the incompetency of his Green Jones in the "Ticket of Leave Man."

The PRINCESS' has brought out a dramatized version of the much advertised "Mystery of a Hansom Cab," by Messrs. Arthur Law & Fergus Hume. This piece is quite on the lines of the plays lately produced at this house, and is full of incident and sensation; Mr. Fernandez has been specially engaged for it, and Miss

Grace Hawthorne also appears. Mrs. Huntley, that best of representatives of the worst specimens of her sex, is quite at home in Mother Guttersnipe.

At the SAVOY "H.M.S. Pinafore" has been withdrawn in favour of a revival of "The Pirates of Penzance," with the same familiar performers to which we are all accustomed, but from whose ranks Mr. Rutland Barrington and Miss Jessie Bond are shortly to secede.

The STRAND has been taken by Mr. W. Edouin, who has produced "Katti," chiefly for the purpose of introducing Miss Atherton in the title rôle. As a German servant-maid, she causes abundant laughter, ably seconded by Mr. Edouin; more than this is not aimed at.

TOOLE'S is again the scene of farcical comedy in the shape of Mr. and Mrs. Herman Merivale's new piece, "The Don," the action of which takes place at Oxford, and introduces Mr. Toole in cap and gown. It is needless to say that the popular manager extracts endless amusement from the situations in which he is placed, Miss Kate Phillips acts with much spirit as a lively widow, and Miss Marie Linden also gives good support.

At the VAUDEVILLE Mr. Thorne has made a second experiment on the same lines as the successful "Sophia," by bringing out a play by Mr. Robert Buchanan, based on Fielding's "Joseph Andrews," and called "Joseph's Sweetheart." Although the original is but slightly followed, the result is an actable and effective play providing Mr. Thorne with a congenial part in Parson Adams, and Miss Vane with a good opportunity as Lady Booby. Mr. Conway and Miss Kate Rorke appear as the lovers, and the rest of the cast is adequate.

At TERRY'S, Mr. Pinero's "Sweet Lavender" will doubtless draw full houses. Notwithstanding the "plentiful lack" of plot that has been bewailed by all the critics, the play is well worth seeing. The story is, indeed, wanting in backbone, but not more so than "Caste" and "Ours," and, like Robertson's pieces, it has telling dialogue, individual characters, and, above all, good acting to support it. Mr. Terry is especially well suited in the good-hearted tipsy Dick Phenyl, though, to our mind, his humour would be far more telling if he would avoid over-accentuation (which extends to his "get-up"), and be a little less "Terry." The rest of the cast is of very even merit, with the one exception of Miss Norreys, who is entirely thrown away on the colourless part of Lavender, and who performs most of it as if walking in her sleep. It is a thousand pities that this excellent actress should mistake her vocation. Miss Carlotta Addison is always refined, thorough, and unexaggerated in all she does, and her rendering of a difficult part is worthy of all praise. Mr. Kerr and Miss Millett are excellent as the secondary lovers, and Mr. Bernard Gould does all that is required for Clement Hale. The minor characters of Dr. Delaney, Mr. Wedderburn, and Mr. Bulger the hairdresser

(the latter an original creation quite in Mr. Pinero's own style) are very carefully acted by Mr. Alfred Bishop, Mr. Brandon Thomas, and Mr. Valentine. The first-named is a very versatile actor, and must be a treasure in any company.

At DRURY LANE Easter week is to be celebrated by the reproduction of "A Run of Luck"; at the HAY-MARKET by the appearance of "The Pompadour"; at the LYCEUM by a short season under the management of Miss Geneviéve Ward, who will appear in "Forget-me-not" and "Nance Oldfield"; and at the GERMAN REED ENTERTAINMENT by an entirely new programme, consisting of "Wanted an Heir," by Malcolm Watson, and "Mossoo in London," by Mr. Corney Grain; while the NOVELTY is to re-open under the management of Mr. George Giddens, with "Nita's First."

Pieces that have been running for some time.

ADELPHI.—"The Bells of Haslemere," melodrama, Mr. W. Terriss, Mr. C. Cartright, Mr. Garden, Miss Millward, Miss Clara Jecks, &c.; and a farce.

AVENUE.—"The Old Guard," comic opera, Mr. Arthur Roberts, Mr. John Dallas, Mr. Alec. Marsh, Miss Edgecumbe, Miss Fanny Wentworth, Mdlle. Henriette Polak, &c.; and "A Cup of Tea."

COMEDY.—"The Arabian Nights," three-act farce, Mr. W. Draycott, Mr. W. S. Penley, Miss Lottie Venne, Miss Cissy Grahame, Miss Cudmore, &c.; and "Sunset," Mr. W. Draycott, Miss Caroline Elton, &c.

CRITERION.—"David Garrick," comedy, Mr. Charles Wyndham, Mr. David James, Miss Mary Moore, &c.; and "Why Women Weep."

GAIETY.—"Frankenstein," Mr. Fred Leslie, Mr. George Stone, Mr. E. J. Llonen, Miss Nelly Farren, Miss Marion Hood, Miss Florence Dysart, &c.; and "Lot 49."

GLOBE.—"The Golden Ladder," melodrama, Mr. Wilson Barrett, Mr. George Barrett, Miss Eastlake, Mrs. Henry Leigh, &c.; and "The Colour-Sergeant."

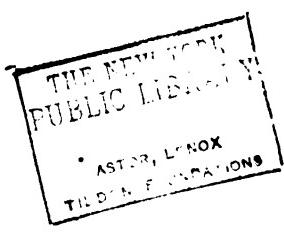
OPERA COMIQUE.—"Ariane," drama, Mr. Henry Neville, Mons Marius, Mr. Leonard Boyne, Mrs. Bernard Beere, Miss Laura Linden, &c.; and "Love and Politics."

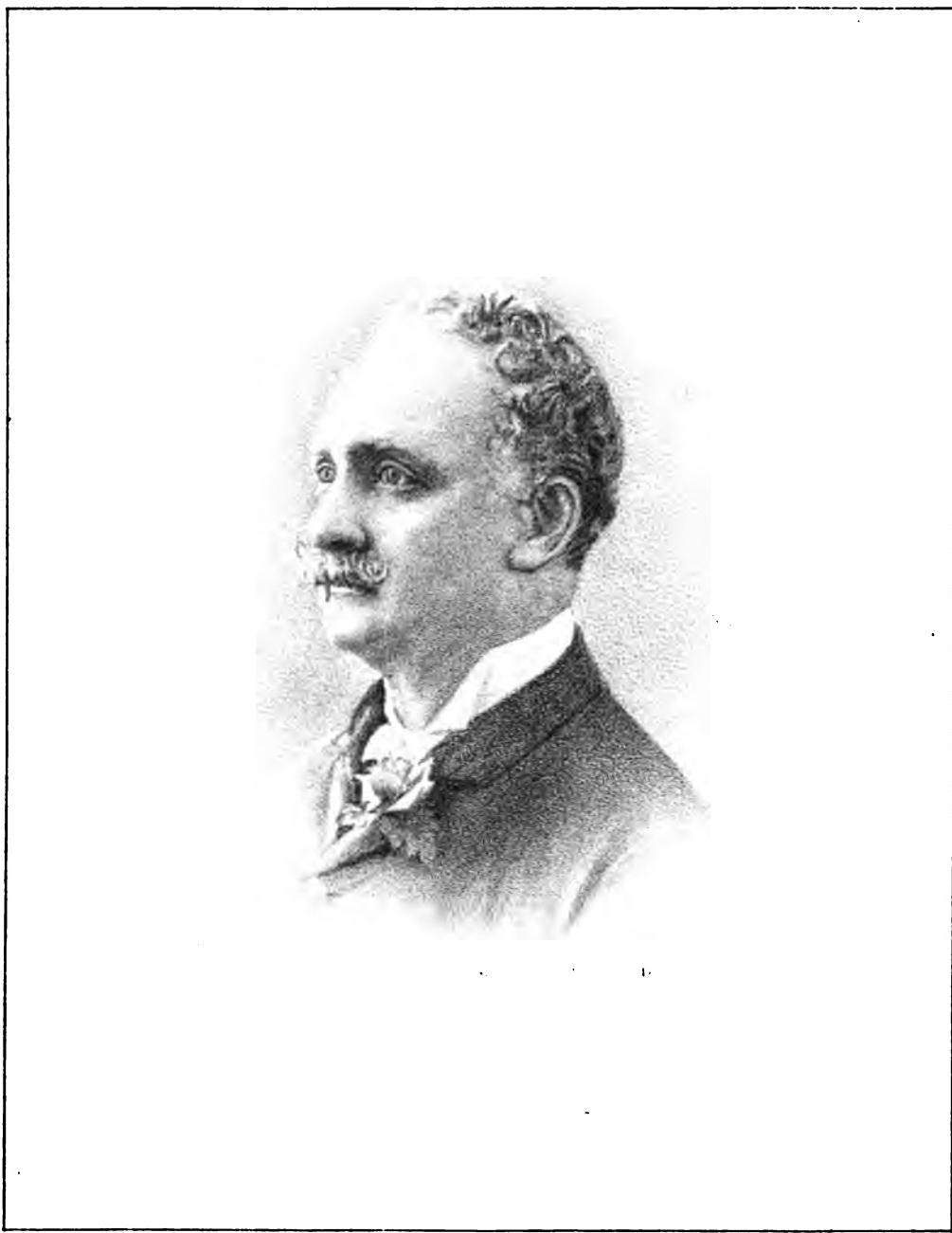
PRINCE OF WALES'.—"Dorothy," comic opera, Mr. Ben Davies, Mr. Furneaux Cook, Mr. Arthur Williams, Mr. Hayden Coffin, Miss M. Tempest, Miss Florence Perry, Miss H. Coveney, Miss Nellie Gayton, &c.; and "Jubilation."

ROYALTY.—French Plays. Under the direction of Mr. M. L. Mayer.

ST. JAMES'S.—"Scrap of Paper," comedy, Mr. Kendal, Mr. Hare, Mr. Herbert Waring, Mrs. Kendal, Mrs. Beer-bohm Tree, Mrs. Gaston Murray, Miss Blanche Horlock &c.; and "Old Cronies," Mr. Macintosh.







CLEMENT-SMITH & CO LTD LONDON & NEW YORK 1885

MAJOR GENERAL ARTHUR LYTTELTON-ANNESLEY.
COMMANDING NORTH BRITISH DISTRICT.

THE
ILLUSTRATED
Naval and Military Magazine.

No. 47.

MAY 1ST, 1888.

VOL. VIII.

MILITARY BIOGRAPHY.

MAJOR-GENERAL ARTHUR LYTTELTON-ANNESLEY.



N the series of Biographies now being published in these columns, we desire to record the gallant deeds of those who have seen active service and whose names are inscribed in the Roll of Honour, and also the careers of those officers who have distinguished themselves in time of peace by their untiring industry in making themselves conversant with the various duties of a regimental officer.

Major-General Arthur Lyttelton-Annesley, the subject of the present memoir, was born on the 2nd September 1837, and educated at Harrow. He is eldest son of Arthur Lyttelton-Annesley, Esq., of Arley Castle, Staffordshire (formerly of the 42nd Royal Highlanders), who was the son of General Norman Macleod, C.B., and the Lady Hester Annabella Annesley, sister and heir of George, second Earl of Mount Norris, eighth Viscount Valentine. Mr. Lyttelton-Annesley assumed by Royal Licence the name of his maternal ancestors in 1844.

Major-General Lyttelton-Annesley obtained his first appointment as cornet in the 11th Hussars, in July 1854, when he was barely seventeen years of age, and when the regiment was commanded by the Earl of Cardigan. He remained in the regiment until 1878, when he was placed on half-pay (having commanded it nearly seven years) on appointment as aide-de-camp to H.R.H. the Commander-in-Chief. His promotion in the first instance was somewhat rapid, for he obtained his trooper in less than three years. In January 1861 he obtained his majority, and in 1866 he went out to India, in command of the regiment.

During his regimental period of service, Major Annesley attracted the attention of his superior officers by diligent attention to his duties, and acquired

all that knowledge of regimental detail which (as will be seen later on) served him afterwards so well. He served in the Crimean Campaign, 1855, was present at the siege and fall of Sebastopol, and wears the medal with clasp and Turkish medal. While at Ismid and Scutari he had an excellent opportunity of studying and comparing the internal economy, discipline, and management of most of the English cavalry regiments that were quartered there under the command of the late General Storks, having been attached to 12th Lancers, 8th Hussars, and Enniskillen Dragoons. On his return to England he was quartered at most of the cavalry stations in England and Ireland.

Colonel Annesley, as officiating commanding officer, displayed those high qualities so essential for the welfare of a regiment, and had industry enough to make himself acquainted with the changes and requirements which life in India entails upon all Europeans, also with the laws of sanitation, applying them to the internal economy of his regiment; the belief of that day, both at home and in India, was that all European regiments which remained long in India became demoralised. Colonel C. Fraser, V.C., C.B., who was commanding, came out overland and joined the regiment at Poona. During the Abyssinian campaign, Colonel Fraser left the regiment temporarily to take up a staff appointment at the seat of war, and the command again devolved upon Colonel Annesley until Colonel Fraser returned to India in 1871. Colonel Annesley obtained the permanent command of the regiment in July 1873, when Colonel Fraser accepted the appointment of aide-de-camp to the Commander-in-Chief.

In 1819, the previous occasion of the 11th Light Dragoons being sent out to India, medical statistics

show that while 3 men died during the voyage, 25 men died going up the Ganges. From the 27th of October 1819 to the 1st September 1820, 3 officers and 166 non-commissioned officers and men died, and from the 6th of December 1820 to the 31st of December 1821, 1 officer and 28 non-commissioned officers and privates died. These returns determined Colonel Lyttelton-Annesley to devote himself to a careful supervision of the regiment, strictly observing the laws of health as applied to tropical countries, with most favourable results, as shown by the following table of men who died, and were invalidated to England during the sojourn of the 11th Hussars in India :—

Year.	Died.	Invalided to England.
1867	16	—
1868	10	—
1869	—	—
1870	2	31
1871	7	16
1872	5	18
1873	6	24
1874	3	38
1875	6	14
1876	3	12
1877	1	3
Total Died .		59
Invalided .		156

These statistics contrast very favourably with those just cited, giving an average of deaths for the eleven years of little more than five per annum as against ninety-seven per annum in the former period. The 11th Hussars were present at the first and second Delhi camps of instruction ; at the camp of Roorkee ; and on January 1st, 1877, at the magnificent *darbár*, held by Lord Lytton, on the "Ridge," at Delhi, which overlooks the ancient capital of the Moguls. On that occasion Her Majesty was proclaimed Empress of all India, the 11th Hussars (P.A.O.) furnishing the Viceregal bodyguard. When the Prince of Wales paid his memorable visit to India, after inspecting the 11th Hussars at the camp at Delhi, His Royal Highness appointed Colonel Annesley to his staff, who returned to England with the Prince and suite in the *Serapis*, after disembarking at Gibraltar, visiting the Peninsula, and re-embarking at Lisbon. Having spent six months in England, Colonel Annesley returned to India, brought the regiment home, and remained with it at Colchester till April 1878.

On the 16th November 1877, the regiment was inspected by His Excellency the Commander-in-Chief, Sir F. P. Haines, G.C.B. After the regiment had marched past, Sir F. P. Haines said : "Colonel Annesley, Officers, Non-Commissioned Officers, and Men,—It has been a great pleasure to me to make this inspection of the regiment before its departure to England. And what I have seen of the soldier-like and smart appearance of the

men has given me the greatest satisfaction and testifies to the excellent state in which the regiment has been constantly reported by General Sir J. Brind, who has had such frequent opportunities of judging during the period of his command. It is a remarkable thing that an idea has gained ground in England, that no good can be got out of a regiment returning from India. But I question very much whether the regiments which have gone from India to England, and have given rise to this idea, have been up to the Indian mark. The idea has been considerably shaken by the arrival of the 16th Lancers in England in the highest state of efficiency, and fit to take their place at once side by side with the best regiments at home. And I feel sure that on the return of the 11th Hussars to England this idea will be entirely dispelled for ever."

When Colonel Annesley left the 11th Hussars he was the last remaining possessor of the Crimean medal in the regiment.

In April 1878 Colonel Annesley was placed on half-pay on appointment as aide-de-camp to His Royal Highness the Commander-in-Chief. He remained on the Staff of His Royal Highness until November 1878, when he was selected for the post of Assistant-Adjutant-General at Headquarters, and during that period was sent to Hungary to buy remounts, and visited all the studs there. In February 1881 he was appointed Adjutant-General at Bombay, a post he held until April 1886.

For this appointment he was well qualified, having passed the higher standard examinations in Hindi, Urdu, and Persian. During his tenure of office he ably seconded Sir A. Hardinge in reorganizing the Bombay Native army, and that his efforts succeeded was shown by the excellent manner these regiments fought in the Burma campaign. In 1883 he accompanied the Commander-in-Chief of the Bombay army, Sir Arthur Hardinge, in his inspection of Quetta and the Afghan frontier, ascending the Bolan Pass ; he afterwards went to Kelat, and visited the Khan in company with the Honourable Charles Colville, Grenadier Guards. In 1884 Colonel Annesley passed an examination in veterinary surgery. During his lengthened service in India, Colonel Annesley took every opportunity of becoming familiar with the country, having visited, in addition to the military stations of the Bengal and Bombay Presidencies, Baltestan, Ladak, and Kashmir ; Gilgit, Astor, and the frontier of Chilas ; the latter journey one that had not often been made. Major-General Lyttelton-Annesley has now taken over the command of the troops in the North British district, having for his aide-de-camp Lieutenant C. Darby Griffith, of the Grenadier Guards, and, no doubt, will exercise his military talents for the benefit of the Division he commands.

JAMES C. DICKINSON.

RAPID FIELD-SKETCHING AND RECONNAISSANCE.

BY CAPTAIN WILLOUGHBY VERNER, RIFLE BRIGADE.



THE subject of rapid field-sketching on foot or on horseback, is one which opens up a very wide field to any officer with a good eye for a country, and who is also able to make use of his fingers. I am far from saying that a man must be a good freehand draughtsman in order to be able to execute a military sketch, but I am strongly of opinion that the man who can draw is, to use a nautical expression, many points to windward of the man who cannot. The latter may, by dint of the most laborious exertions, succeed in time in turning out a decent sketch, but the more the work in which he is engaged departs from the rigid rules of a scientific survey, and approaches to that of the landscape sketcher, the further behind lags the man who has neither a turn nor an eye for drawing.

To the uninitiated it would appear to be almost unnecessary to pass any remarks on the subject, but it is a fact, albeit a somewhat absurd one, that many a man who is perfectly candid in admitting his want of knowledge in other technical military matters, will not allow for a moment that his sketching is not all that can reasonably be desired, and not uncommonly looks upon any criticisms on his performances in that line as almost a personal affront. If it be granted that the essence of military sketching is rapidity, and that the quicker a man's eye takes in a bit of ground, and the more accurately his mind retains an impression of the same, the better will be his work, can it be doubted which man, the draughtsman or the non-draughtsman, will be the most likely to produce a *useful* sketch in a given time?

It must be remembered that a sketch is generally made for the information of some person who has not yet seen the ground in question, hence the only real test of its value is its capability of conveying a true impression of the portion of ground it represents to others. I would wish, therefore, to start on the subject of rapid field-sketching, either mounted or on foot, with the following assumption, namely, that in order really to attain great facility in this line, and to produce useful sketches against time, it is an enormous advantage to have a natural taste for freehand drawing, and that the man with this talent will, ninety-nine times out of a hundred, distance the man whose

only knowledge of using his pencil is derived from studying military surveying.

Now this taste for freehand drawing need not be a very developed one, but the more developed it is, the better and easier will a man when engaged in military sketching draw the detail which he wishes to place on record.

I do not want to discourage anybody from attempting to master the art of rapid field-sketching, in spite of their natural inability to draw. I only want to put it plainly before them that they are embarking on an un-

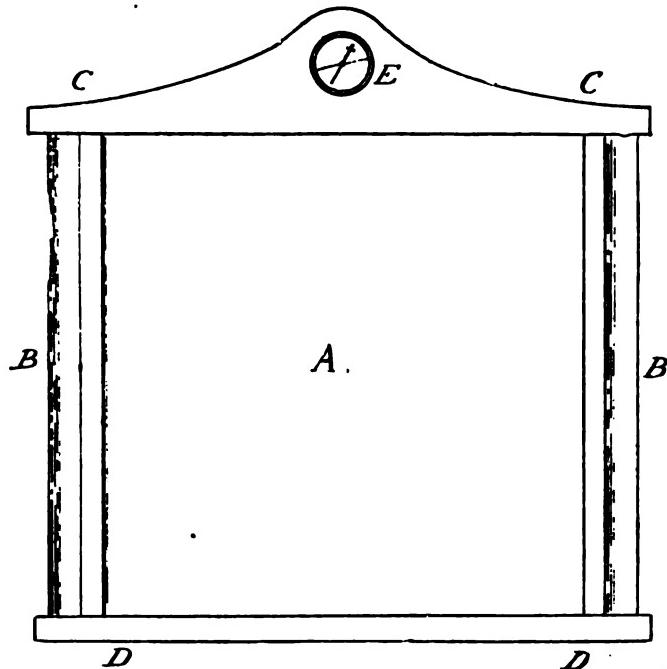


FIG. I.

dertaking in which they are very heavily handicapped, and I would say to all of them that they must not be disheartened or surprised if they see men who possess the turn for drawing distance them in the race.

That it is possible for men to become excellent map drawers, giving them plenty of time and instruments, is altogether beside the question. I deal only with *rapid field-sketching*.

Before proceeding further I wish it to be distinctly understood that I am not going to make any startling revelations or divulge any new processes with regard to field-sketching. The subject has been exhaustively

treated in all its technical details by people far more competent to do so. All I seek is to endeavour to describe the various methods by which sketches and reports can, in my opinion, be most rapidly and efficiently executed in the field, and at the same time to give all the information I can on certain minor points which experience has taught me are well worthy of attention.

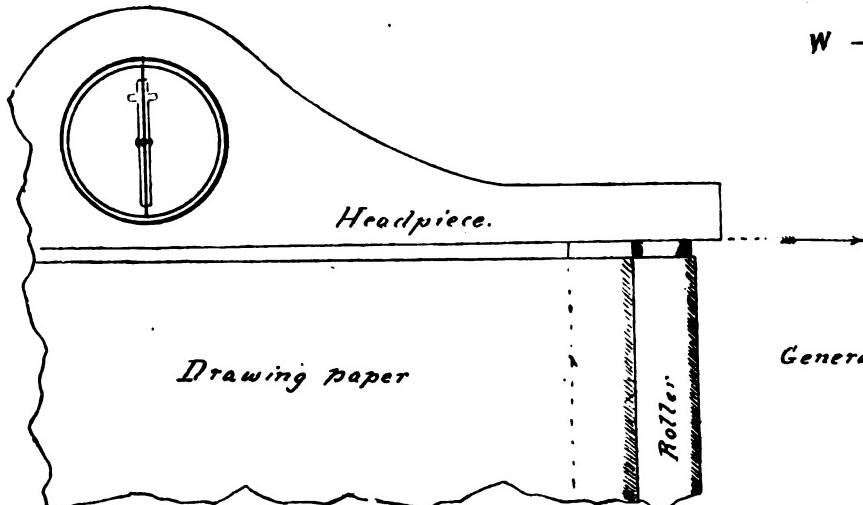
For rapid work in the field, nothing can equal the "cavalry sketching-case" as it is commonly called, and it is with this little instrument that I propose to deal in the following pages. It is the invention of Colonel W. H. Richards, for many years Professor of Military Topography at the Staff College, and to

a friend with my own favourite sketching-case, and, as I imagined, given him full instructions as to how to proceed, he returned it to me with thanks, and an intimation that he had found it so complicated that he had "fallen back on the simpler method" of carrying a large board, prismatic compass, protractor, etc.

It is owing to similar experiences that I have been induced to write the following, as I am convinced that when once any man has mastered the extremely simple process of sketching with this board, he will never use anything else for rapid work in the field.

"Well-informed people" are, therefore, warned off, and are respectfully requested not to waste their time in perusing the following very elementary treatise.

Figure 2



N.B. The Magnetic Needle has been drawn larger than it actually is, so as to distinguish it from the "Working Meridian" with which it is here shewn to coincide.

FIG. II.

whom I am indebted for my first lessons in its use. For some years it has been the custom to instruct officers in surveying with the prismatic compass, and the natural result is that it is the exception to come across any who are acquainted with the use of these sketching-cases. Of course, there are men to be met with now and again who have learned to use them at special classes of instruction, as at the Staff College; but these are the exception, and I have over and again seen men who were excellent draughtsmen with the ordinary tools of the craft, but who were totally unacquainted with the simpler, more rapid, equally effective, and more soldierly method of working with the cavalry sketching case. Indeed, I shall never forget my feelings on one memorable occasion when, after having equipped

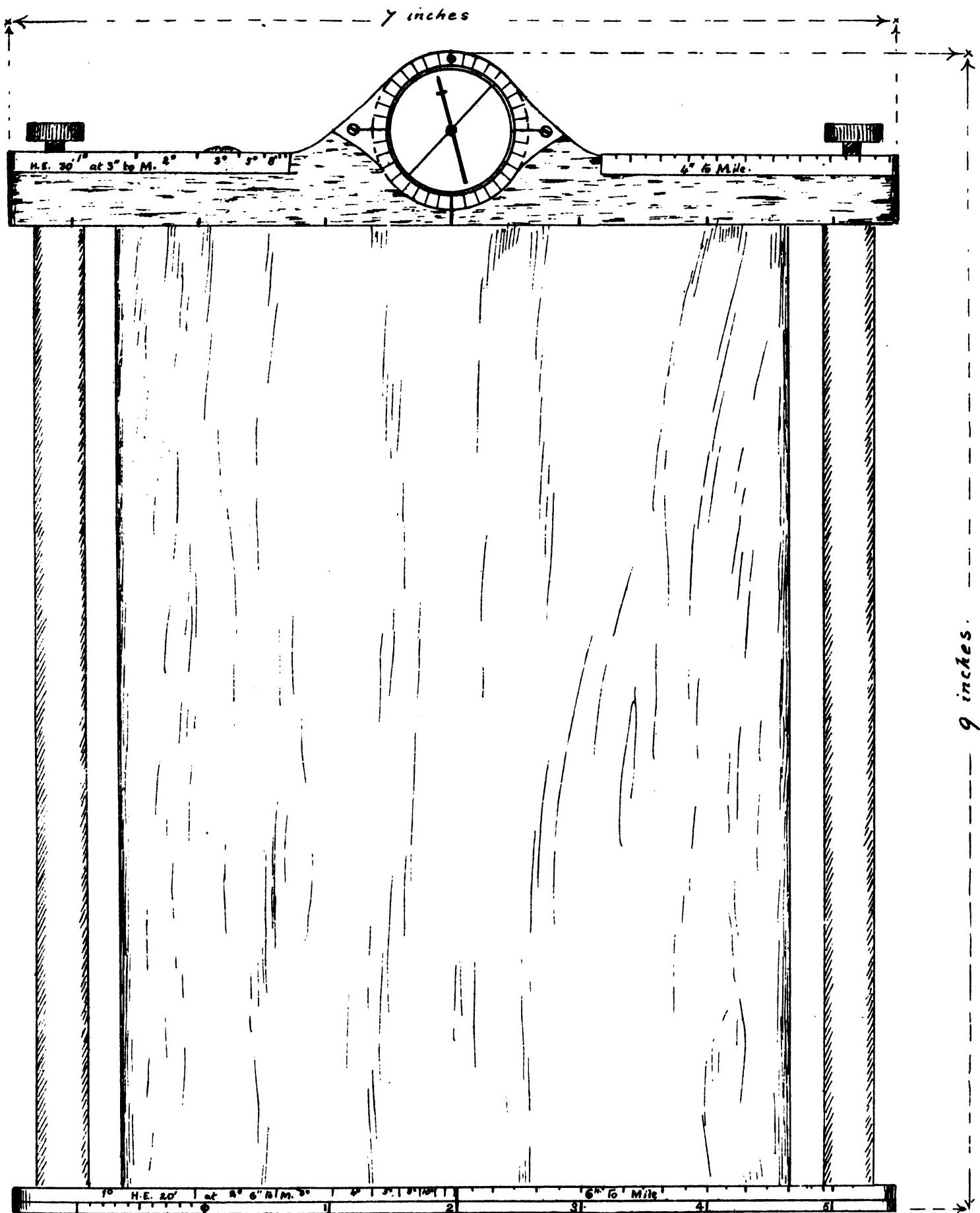
In order to use a cavalry sketching-case with effect, it is, of course, absolutely necessary to have a thorough knowledge of the ordinary details of "Military Topography" which come successively into play during the process. These are especially:

- (a) The construction of scales both for distance and time for foot and mounted work.
- (b) The principle of contouring.
- (c) Sketching with the plane table.

Anybody can become proficient in these with a reasonable amount of study; those which can only be properly acquired by constant practice in the field are:

- (1) The power of approximately estimating distances, and of judging gradients of roads, slopes of hills, and elevations of high ground at a distance.

PLATE I.



THE CAVALRY SKETCHING CASE (NEW PATTERN.) Front view of instrument.

- (2) The facility of drawing in on the sketch any particular detail (such as a farmstead, a railway, or stream) at some distance from the road at the proper interval (as estimated by the eye in No. 1) without having recourse to the scale of yards on the ruler.
- (3) The habit of drawing in rapidly the *general* direction of a road or of any particular object without observing its direction precisely as with a plane table.

But all these are of little avail if a man has not the power of taking instantaneous mental notes of everything which comes within his view or knowledge, and which is likely to be of importance in military operations. It should be the great aim and object of every man who aspires to be good at reconnaissance so to discipline his powers of observation for each day's work that he instinctively notices everything of military importance, giving prominence to those details which are of especial value with regard to the particular nature of the work on hand.

For the benefit of those who are unacquainted with the cavalry sketching-case, I will now describe it in detail. Colonel Richards' original case (see Fig. I.), which embodies the principle of all those since constructed, is a small drawing-board "A" about six inches square, fitted with wooden rollers B B' on either end, which revolve in sockets in a head-piece C C' and a foot-piece D D' fixed on opposite sides. On these rollers a strip of paper of any required length, say 2 ft. or more, is wound and thus stretched across the board A. In the head-piece C C' a small magnetic compass E is countersunk in a collar in which it can be revolved. On the glass of the compass a fine line is engraved, which is termed the "working meridian."

In the centre of the back of the board there is a metal pivot to which a strap is attached, which latter is used to secure the board on the left wrist when working with it. To use the board, the "working meridian" is set in the required position by turning the compass-box round in its socket. The relative position of the "working meridian" to the board itself, having thus been determined, the board is "set" for sketching by revolving it on the pivot beneath it until the "working meridian" coincides with the direction of the magnetic needle when at rest. (Fig. II.)

To take an example, supposing that it be required to sketch along a road running east. It is obvious that to get full advantage out of the board, it would be necessary to "set" it so that the length of paper on it corresponded with the general direction of the road, that is, so that the inner edge of the head-piece pointed to the east. This being the case the needle would necessarily be at right angles to the road, and it is plain that if the "working meridian" be adjusted in this position

and the board turned until the needle coincides with it, it will be truly "set" for sketching along the road in question. Fig. 2 shews a board thus adjusted.

It will be gathered from the above that the cavalry sketching-case is nothing more than a miniature and portable form of the plane table, and hence that to use it with effect it is advisable to practice sketching with that instrument, or with the more rough and ready makeshift of a common drawing-board and a magnetic compass.

With the sketching-case, the ruler provided with sight-vanes, as used with the plane-table, is replaced by a simple straight-edged piece of wood, with which the direction of any distant object is noted by aligning the ruler on it and marking its position on the sketch with a pencil line. It is undeniable that this process is a

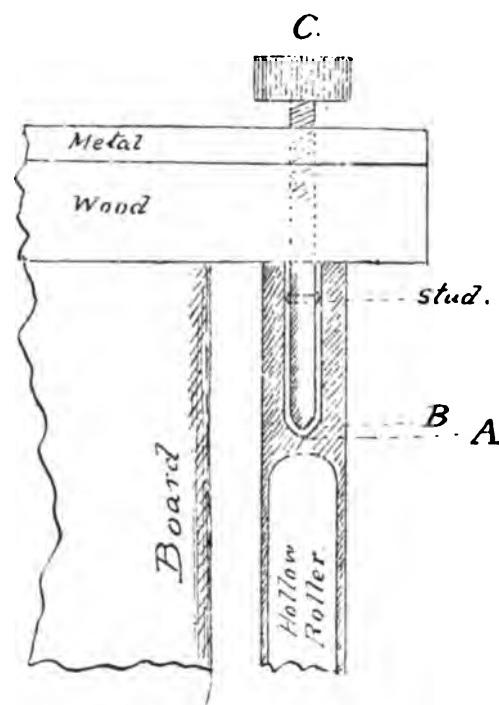


FIG. III.

rough one, and likely to strike the scientific surveyor aghast; but it should be borne in mind that rapid field-sketching and surveying are two very different things, and, further, that it has been proved over and over again that this apparently rough and uncertain process is quite sufficiently accurate for ordinary military purposes. Indeed, when used dismounted, the board being carried in the hand in lieu of being strapped to the left wrist, almost any ordinary degree of accuracy (such as with a prismatic compass) can be obtained by combining the process of an "eye sketch" with that of the "plane table."

Having thus explained the general principle of these boards, it will be necessary for me to describe particularly the pattern I at present use, since many of the details of sketching which I am about to discuss cannot

be carried out in the field on a board unprovided with some of them at least.

The first question which naturally presents itself when deciding upon a board of this sort is the size. Portability is the essence of all the articles of a soldier's kit, and it is necessary to have a board which can be carried or stowed somewhere without causing inconvenience. Thus a board which can be carried in an ordinary sabre-tasche or an officer's haversack or a roomy pocket, is about the most convenient size, and after various experiments I have found this to be about 9 inches wide (across board and compass), and 7 inches long (across from roller to roller). This will permit of a width of paper of $7\frac{1}{2}$ inches, which at a scale of

by which means they can be regulated to any required degree of stiffness. The annexed diagram will explain itself. (See Fig. III.) In order to clamp the roller, a turn of the screw C brings the point of the pivot B against the interior of the roller at A. The small stud is to prevent the screw working out and being lost.

Since the correct adjustment of the working meridian is a very important factor in the process of sketching with one of these boards, I recommend that the magnetic compass should be sunk in a metal collar graduated into divisions of ten degrees. This enables the position of the meridian to be noted, and affords other advantages into which I will enter more fully hereafter.

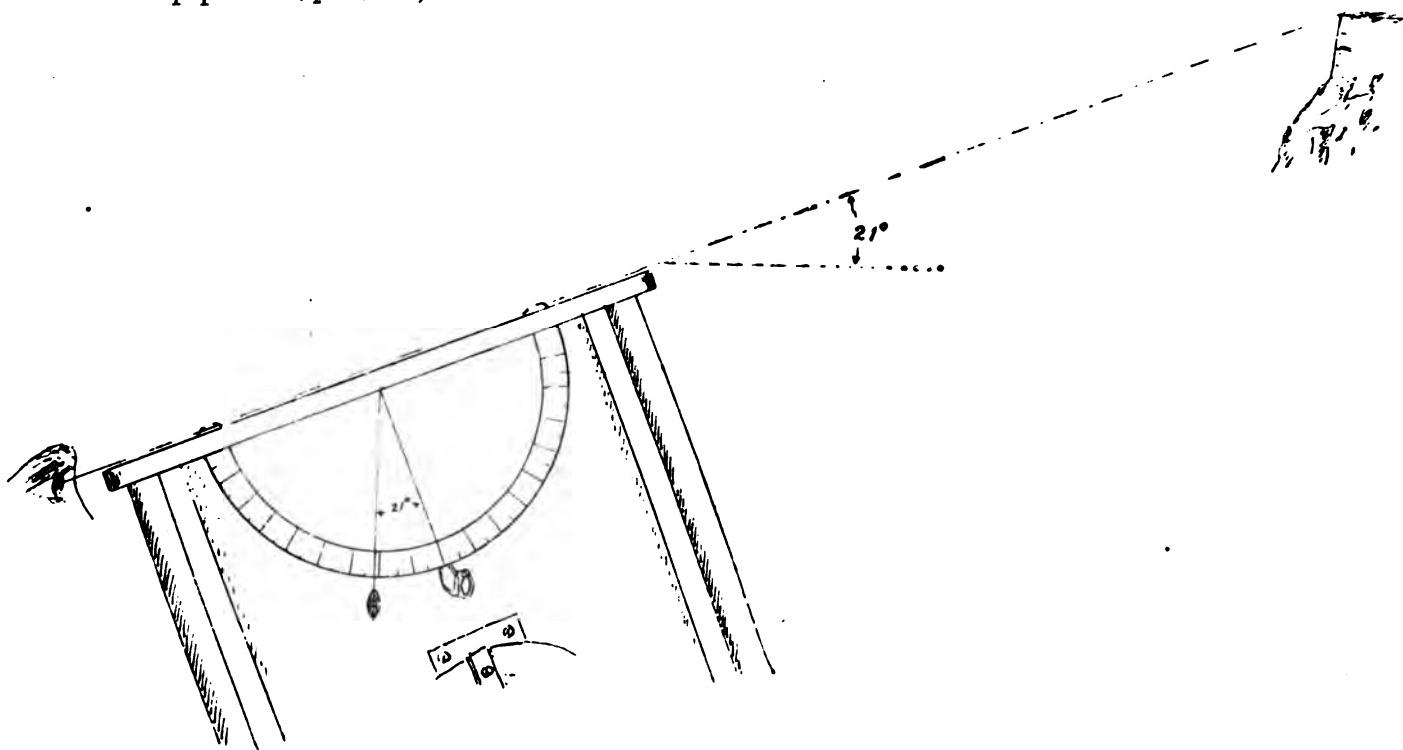


FIG. IV.

2 inches or 3 inches to a mile will take in a considerable extent of country. It is obvious that practically an unlimited length of paper can be carried by reason of the rollers.

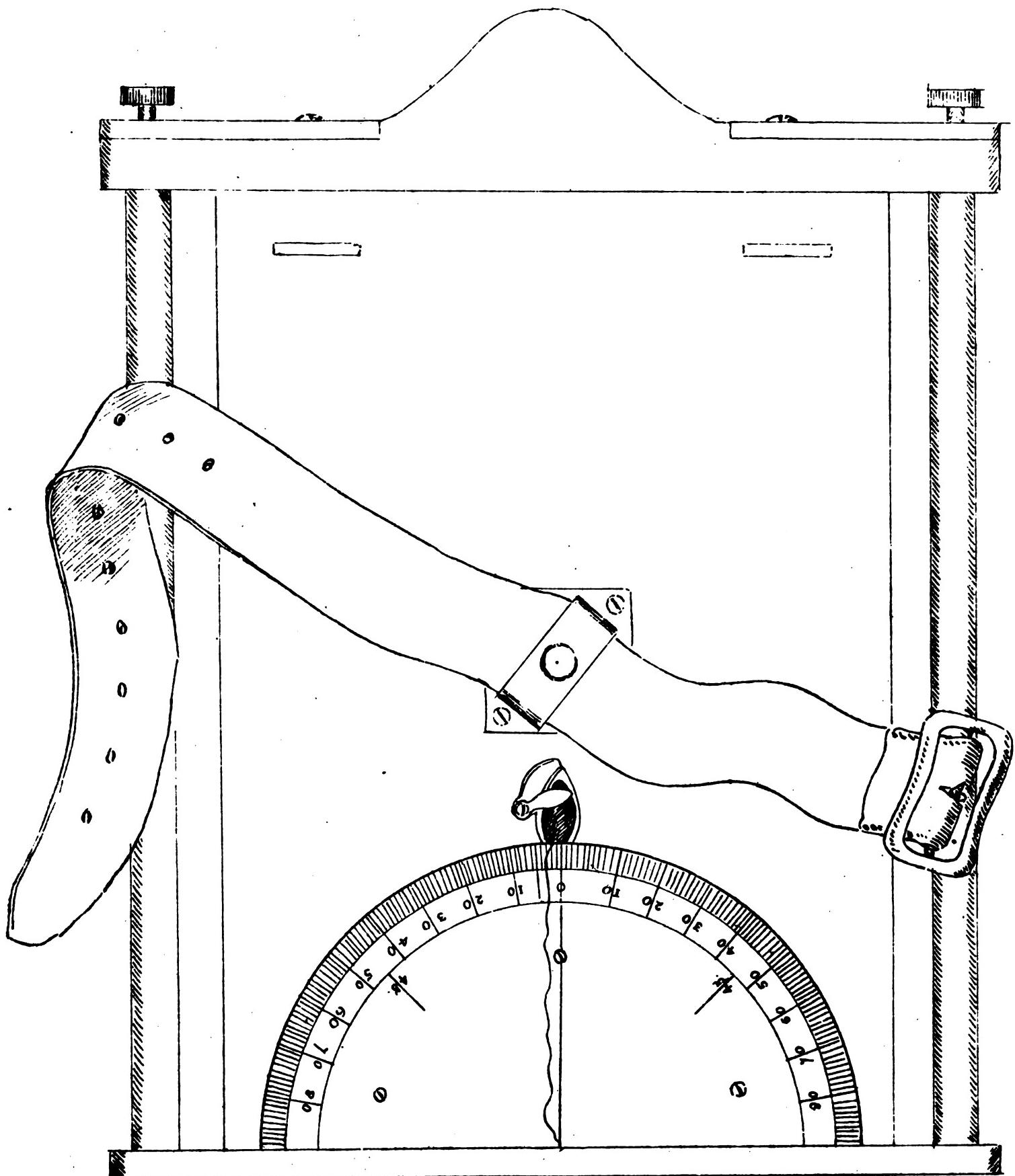
A very convenient way of carrying the board when not in use is in a leather case, which can be strapped to the saddle after the manner of a shoe case, or carried on a waist-belt when working on foot.

One of the most vexatious things in working with a cavalry sketching-case, is the liability of the rollers in time to work loose, when they fail to stretch the paper across the board, and it consequently bulges out and offers an impossible surface to draw upon. The discomfort caused by this can only be realised by those who have experienced it when sketching under arduous circumstances. I have endeavoured to obviate this by providing each roller with a clamping screw at one end,

It is a great advantage to have the scales most commonly used in surveying engraved on the metal foot-piece, &c., of the board, and for the reason that so long as the board itself is at hand, no other instruments are required. In a campaign in a civilized country the loss of a protractor might be a matter of little moment, but to the British officer who so frequently is called upon to serve in some savage and remote part of the world, it entails extreme inconvenience. The scales that are probably the most useful, and which I have adopted, are the following :—

1. A scale of inches and tenths of an inch.
2. " " 4 inches to a mile, to show 50 yards.
3. " " 6 " "
4. " " horizontal equivalents—normal.
5. " " H.E. for 30 feet vertical intervals at 3 inches to a mile.

PLATE II.



THE CAVALRY SKETCHING CASE (NEW PATTERN.) Back view of instrument.

With these, it is possible to do any ordinary work. No. 1 enables any particular scale required (such as for a horse's paces) to be constructed with sufficient accuracy. Nos. 2 and 3, being divided into fifty yard intervals, can be used for scales of 2 inches and 3 inches to a mile, and, of course, for any multiples of 4 and 6. The last (No. 5) is a very useful working scale for sketching on horseback.

I have found it to be a decided advantage under certain circumstances to be provided with a clinometer, and a very fair makeshift one can be made by screwing a semi-circular boxwood protractor on the back of the board. A plumb-bob is suspended from the centre of the foot-piece, and when not in use is fitted into a cavity in the back of the board, where it is retained by a small

than by a makeshift clinometer, but the ordinary sketcher requires some such assistance from time to time if only to give him confidence, and occasions may arise when it is of great importance to make the most accurate observations practicable under the circumstances.

A very useful plan is to graduate the headpiece and footpiece of the board into divisions of one inch at points exactly opposite to one another. This enables a sketch to be divided into sections of one inch or more by ruling lines from one graduation to that opposite to it. This is especially useful when sketching by "time," or when working with the aid of maps, which it is desired to enlarge and fill in with military details.

So much for the board, now for the tools required to work with. I am one of those who look upon no detail

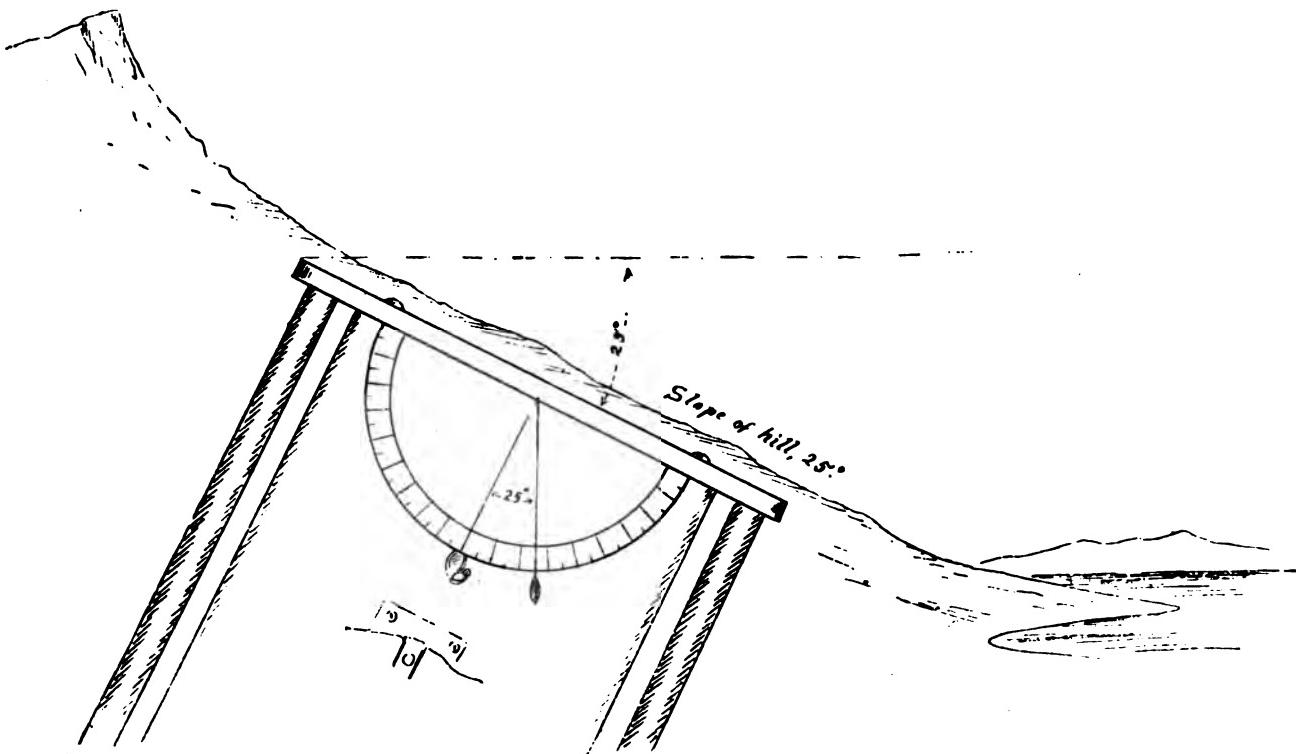


FIG. V.

catch. This clinometer is used after the fashion of the old Sandhurst pattern instrument of that name, the screws attaching the footpiece to the board making good fore and back sights wherewith to take the elevation or depression of objects.

Again, by holding the board sideways, it is easy to ascertain the slope of the profile of a hill. This is often a great help to a sketcher, and cannot be done with the "Watkin," clinometer, although the "Abney" level admits of it. If ordinary care be used, it will be found that the wind will affect the result of any observations taken with this clinometer to a very small extent on account of the board sheltering the plumb-line.

I am perfectly aware that most skilful draughtsmen say that they prefer to estimate slopes by eye rather

as too trivial to be alluded to, when a question like sketching in the field is under discussion, for it is precisely by bestowing the most careful attention to such minor points as a hard or soft chalk pencil or a blunt or pointed black-lead one that a sketch may prove to be of the greatest value owing to its clearness or to be so confused as to be practically useless.

In rapid sketching, especially when mounted, it is a great advantage to carry the pencils actually required for constant use in some sort of hold-all. These can be made or obtained in every size and shape, but after having innumerable patterns made, I have come to the conclusion that the best sort is the simplest possible. This I take to be one that will carry a couple of black pencils, a small bit of red and blue chalk, a penknife,

and a piece of hard indiarubber. I say two black pencils, for if one be dropped or broken, there is a reserve one handy. The red and blue chalks are used now and again to mark any important detail, such as a masonry wall or a stream which, in an extended sketch, may become partially obliterated and perhaps omitted during the process of cleaning up. The indiarubber is, *of course*, attached by a piece of string to the hold-all. Now, although I advocate indiarubber to be carried, I do not recommend its use except now and again, when necessary to clear up some confused part of the sketch; should any line be drawn in error, the best way is to erase it with a few short diagonal strokes on the spot, and to rub it out when finishing up the

made with pencil. The whole sketch can then be cleaned with a hard bit of indiarubber or piece of stale bread, and the coloured chalks applied where required. By this process there is but little danger of accidentally obliterating or omitting some important detail or note made in pencil in the field. When no ink can be obtained, a hard indelible pencil is the next best substitute. "Solid ink" pencils are generally a failure, as they are apt to smudge if wetted by mischance.

Since most reconnaissance sketches in a civilized country have many roads in them, it is an immense saving of time and a great addition to the neatness of a sketch to use a "road-pen." In my pencil sketches

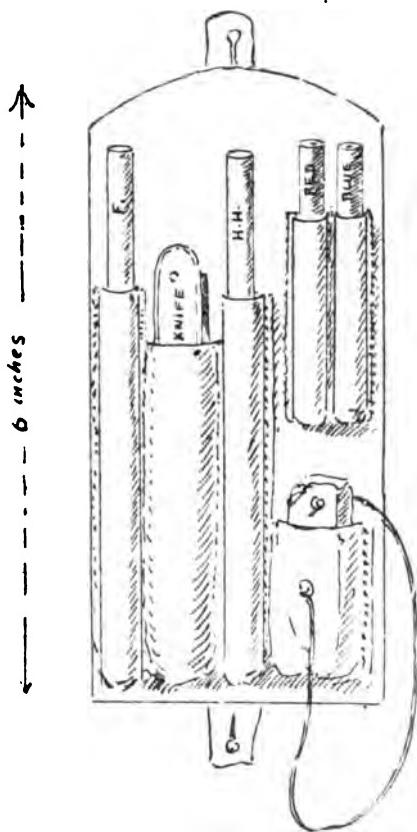


FIG. VI.

work. I trust it is needless to caution anybody as to the fatal effects of using indiarubber in wet weather. The hold-all can be either buttoned on the breast of the jacket, or on the stud of the off wallet. Undoubtedly the most effective method of finishing up a sketch is with Indian ink and water-colours. This process is, however, frequently inadmissible in the field, and recourse must be had to ordinary pen and ink or pencil and coloured chalks. I would always advocate pen and ink being used when possible, because when a sketch is in the somewhat confused condition inseparable from rapid work in the field, it is easy to pick out the detail and write in the notes clearly over the rough jottings

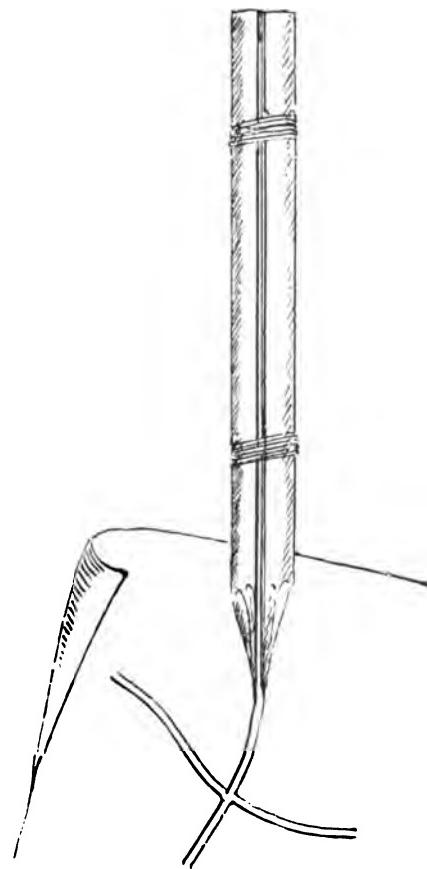


FIG. VII.

I invariably use what I may term a "road-pencil," an arrangement which I make as follows:—Take a hard pencil, the harder the better, and cut it into two equal portions, next slit each of these down their middle and join the two pieces containing the lead lashing them with string, as shown in Fig. VII.

If now the lead points be sharpened at one end and neatly scraped away on the inside edges, a most effective instrument will be provided wherewith to draw double lines.

Besides this road-pencil, I would recommend the

following articles to be carried for finishing up a sketch on the completion of the work in the field, *viz.* :—

A pen in a case with some spare nibs, not "crow-quills," but any fine steel pen; a small bottle of ink of the "musketry register" pattern for choice, well corked up; a small box of chalks of the conventional colours, these must be really hard, and not like the soft chalks supplied to H.M. Stationery Office, which are worse than useless for this sort of work; a good penknife with two blades is an invaluable companion, and is best carried in the hold-all, where it is ready for use and not likely to be forgotten and left behind. As I have already said, the pen and ink may be replaced by a hard indelible pencil.

Now as to the paper; this should be smooth in texture and "hot-pressed," and should be cut in suitable lengths of 30 in. or so and 7½ in. in width, tightly rolled and tied up. Thus folded it will travel securely in the wallets or saddlebags. If it is desired to take particular care of any sketches, an old busby-plume case forms an excellent receptacle.

The sketching-board, when not in actual use, can be conveniently carried strapped to the bridle arm above the elbow, where it will ride in safety out of the way.

The straight-edged ruler needs but little description. Any piece of wood will do, the best form being about 10 in. long by ¼ in. broad, and with bevelled edges, upon which the scale employed can be marked off in pencil from the scales engraved on the board. Messrs.

Elliott have made me an excellent pattern weighted with a strip of lead along the centre; this prevents the wind from blowing it about when in the act of taking a direction with it.

In order to facilitate this process of noting a direction when mounted (and when one hand in consequence is occupied by the reins), it is customary to have a couple of India-rubber bands round the board, under which the ruler is slipped. For this purpose I recommend common white elastic, about ¼ in. wide, as being far preferable to the red vulcanite bands commonly used, and which catch the ruler, and are otherwise objectionable. The ruler can best be carried, when mounted, in the boot, after the manner of a Highlander's *Skene Dhu*, or it may be carried in the hand, but *never* in a shallow pocket or stuck under the bands on the board. Beginners affect both these latter customs only to find on requiring their ruler suddenly that it has been dropped perhaps a mile in rear.

I believe I have now described all the accessories for the work of rapid field-sketching, and I only trust that in attempting to do so I have not been considered as needlessly prolix by my readers. I have confined my remarks strictly to those points which experience has proved to me over and over again to be those upon which beginners are most likely to go wrong. In my next chapter I propose to deal with the method of working with the cavalry sketching-case.

NAVAL AND MILITARY NOTES AND QUERIES.

LOSSES IN GREAT BATTLES.—In the battle of Solferino there were more than 300,000 soldiers in the field, and the losses amounted to from 30,000 to 37,000. At the battle of Leipsic, which lasted for three days, the 380,000 Allies had against them 260,000 French; the latter lost 30,000 prisoners and 45,000 killed and wounded, and the former 48,000 killed and wounded. After Leipsic, the most sanguinary battle was that of Borodino, on the 7th September 1812. The Russians had 180,000 men and 600 pieces of cannon, the French 134,000 men and 587 cannon; the former lost 58,000 and the latter 50,000; the losses were therefore 40 per cent. At Bautzen, on the 21st May 1813, there were 110,000 Russians and Prussians opposed to 150,000 French; the latter lost 20,000 men, and the Allies 15,000 and not a single cannon. At Wagram, on the 5th and 6th July 1809, the Austrians had 187,000

men, and Napoleon 170,000; the Austrians lost 20,000, and the French 22,000. At Essling, the Austrians were 75,000 against 85,000 French; the loss of the former was 20,000 killed and wounded, the latter 13,000 killed, 3,000 prisoners, and 30,000 men sent to Vienna to have their wounds attended to: so that of the 160,000 engaged, about one-half were put *hors de combat*. At Austerlitz, there were 70,000 French, as many Russians, and 18,000 Austrians. The losses were 21,000 Russians, with 160 pieces of cannon, 5,800 Austrians, and 10,000 French. At Jena there were 142,000 French, against 150,000 Prussians. At Waterloo there were 170,000, of whom 70,000 were French, who lost 25,000 men and 250 cannon; whilst the Allies lost 31,000 men. On an average, the losses in all these battles amounted to from 20 to 25 per cent., whilst at the battle of Solferino it was only 15 per cent.

R. O'BYRNE.

P P

THE RAMBLER PAPERS.

I.—THE RAMBLER'S INAUGURAL ADDRESS.



EADER ! I am about to play the part of an editor and chronicler of a series of events that make up in great part the life-history of the men and women with whom I was more or less associated for many years of my life. Meanwhile, a word as to myself.

I am called the Regimental Rambler. Whether I possess a sententious style of expression approaching bluntness which led my brother officers to see a similarity, however distant, between my humble self and the author of *The Rambler*, I know not. Possibly my habits and conversation were discursive, or the latter was inconsequential and digressive. I cannot tell ; but somehow or other I soon acquired the name of the Rambler in my regiment ; and as the story I am about to tell will, necessarily, if it is to be a veritable record, take me to and fro, and be apparently deficient in continuity of plot and arrangement, I think the name of Rambler an appropriate designation.

My functions are circumscribed within very narrow limits—my regiment, which is, as you know, tactically speaking, only a unit ; but as by multiplying a unit you can get a military force, so within the limits of a regiment, seeing, as Sam Slick says, that there is a good deal of human nature in man, we may discern, as it were, in miniature, all the elements and motives of every social unit, be it civil or military. I am, then, first and foremost an editor, having collected together, compiled and arranged things “they say”—some of them that is, for were I to attempt

To drive and scatter all the brood of lies,
And chase the varying falsehood as it flies,

the limits of this book would be literally immense.

Now, having introduced myself, let me introduce my chief and my friends, and we shall find them in the mess ante-room.

There is no mistaking Colonel Sir Henry Hammer. There he sits smoking a Trichinopoly cigar and occasionally sipping sherry from the wine-glass beside him. He is tall, and rather red in the face ; his voice is loud, his laugh somewhat louder ; his manner rather dictatorial, but good-natured ; his eye keen and humorous ; he has seen a good deal of the world, and his knowledge of it is accurate. It is not difficult with a little tact to make a friend of him and it is better to make a friend of him than a foe, for he is a strong man in his way, means what he says, and generally knows his own meaning. The rainbow stripe of ribbon stretching across his left breast extends from the Crimea to

Cabul, and comprises a mutiny, a year in Africa, an expedition up the Red River, a voyage to China, a K.C.B., and one or two other small matters of that sort. To do him justice he does not care to have these things mentioned. He is unmarried.

The short gentleman with the clean-cut features, bald head, grey whiskers, and an eyeglass, is Major Fussy. He is unimportant. He is married.

And here comes Dick Merrithort. It is a pleasure to look at him ; he appears so fresh and rosy and happy. He is what ladies call a thoroughly nice fellow, and they say that he is amusing. He goes by various names amongst us, “The Laureate” being that most commonly applied to him.

He was promoted the other day, and according to the time-honoured custom supplied the dry Monopole in which we drank health to himself and success to his newly-acquired rank. (People, I notice, are very cordial and well-wishing when they drink to your prosperity in your own wine. They do it with a vengeance. I know we did in Merrithort's case.)

When the evening had advanced a bit and Colonel Hammer had retired, we insisted upon the gallant Captain returning thanks for the honour we had done him. Although Merrithort was no orator, he maintained his reputation as the regimental Laureate, for after a few general and commonplace remarks, he said :—

“As it is customary in responding to your own to propose another toast, so as to keep things going, I beg you charge your glasses while I give you my sentiments.

“Here's to gay trappings and jingling heel,
Brave jackets and pipe-clay and glittering steel.
Here's to the charger and smart sabretache,
The trumpet, the drum, the sword and the sash.
And here is confusion to love-speaking eyes ;
They are dangers avoided by all who are wise.
Those who can will please stand while I give you
my toast,
And drink in a bumper the bachelor's boast.
It is Liberty. Health to the subaltern free !
Health to a celibate soldiery ! ”

You expected, no doubt, on being introduced to a regiment to be shown a hero with curly chestnut hair, ultramarine eyes, and a high and noble forehead—a quintessence of all the manly virtues, and an embodiment of all the Apollonian and Adonisian graces. I am sorry to say we have not such a specimen in stock. The pattern has, I am afraid, become obsolete since the Ouida manufactory exhausted the supply. The latest pattern

sealed to govern future supply is struck from cruder stuff, and is found to come cheaper in the end. We have a show man, of course, but he is on leave, and won't appear for some time. Still, we may as well complete our description at once. Charteris is not tall, neither is he handsome; but he is well-made and quite good-looking enough. He is a good rider, cricketer, and shot, and a good officer to boot—heir to a baronetcy and penury.

Our nearest approach to the villain in the regimental caste is Clement Dorman, of whom I know nothing worse than that he is unpopular, and that I personally have always taken great interest in him.

I hope you won't be disappointed, fair reader, but I have nothing like bloodshed to record; and love comes later on. If you thirst after blood allow me to refer you to the German Official Account of the campaign of 1870-71, or to Kaye's *Sepoy War*, or to Colonel Hammer, but not to the daily doings of commonplace persons. You can read for yourself the record of services of our gallant corps on the regimental colours, and in Hart the exploits of each of its members. My purpose is to take you no further afield than the drill field and into no more heroic square than the barrack square.

A man, they say, is known by his friends, a gentleman by his clothes. Well, that may be so; but very little would be known of needy Charles Charteris, our show man, through his friendship for Joseph Drone, our millionaire; and no one would suspect Drone of being the son of a wealthy tallow-chandler, who dropped his h's, judging from the clothes worn by the son of that vulgar old civic celebrity. Drone, who joined us young, shy, and I am afraid, unwelcome, wore then, as he still continues to wear, the plainest and very simplest tailory and haberdashery procurable, in keeping with efficiency and neatness; and later on you will have to judge for yourself whether he is a gentleman. Suffice it that we have the poorest and best-bred man amongst us choosing as his boon companion the wealthiest and the lowliest born of all his brothers-in-arms.

But there is no accounting for friendship. Take the case of Clement Dorman; he had no friends, unless they were Tommy Bowles and myself. Dorman is a clever fellow, but Tommy Bowles, the well-to-do son of the brewing M.P. with less brains in his composition than an intelligent bull, the petted, popular, good-natured Tommy spends hours in the recluse's society; he never misses a chance of speaking kindly words of affection and admiration for Clement Dorman, the man of whom we know so little.

The social chronicler in military circles if he labours under many difficulties enjoys, nevertheless, some advantages. An officer, in my experience, is a peculiarly reticent kind of being upon certain subjects: notably

as to the woman he intends to marry, the wife he has married, the magnitude of his family and the extent of his income. Had I been entirely dependent on officers for particulars their stories would never had been written; but, luckily, their wives and daughters are by no means tongue-tied. My own wife in herself is an encyclopædia of general and, to me, useful information. Moreover, we have in every garrison town ingenuous young maidens like Miss Margaret Wylde, and a few delightful old women like Lieut.-Colonel Dropper, to say nothing of our hard-working town-crier, Mrs. Spreditt. By the help of each and all of these I have been enabled to arrive at something like a foothold of fact in the quicksands of fiction.

By fiction I do not necessarily mean fabrication or falsehood, but merely the froth of social intercourse usually prefaced by some such words as "they say."

And here, kind reader, pardon a parenthesis of a socio-metaphysical kind. If we liken social intercourse to Post Office correspondence it would seem that the mind of man resembles a letter, that of woman a telegram. The one is slow in transmitting its meaning, but gives it you in full, the other flashes a quick reply which often surprises you, and by reason of its very brevity sometimes leaves you still in doubt. The real value of a telegram is that it saves you in the nick of time when a letter would be too late. How often has woman's wit forestalled a crisis, while the result of man's mature deliberation is still upon the road. Letters for the most part are trustworthy; telegrams can be speedily contradicted. Some letters are dull, a few are clever, most are business-like; but telegrams are interesting under almost all circumstances. Under existing regulations the cost is the same for wiring one or a dozen words. Have you ever met that particular class of female mind which likes to have its money's worth, and fill the form right up, even to the last word, regardless of superfluity and tautology?

But here am I justifying my name of Rambler by wandering off into some bye-path, which affords me an opportunity for moralising, at the risk of wearying my reader, whose natural desire is to go straight on, and to encounter the people he is likely to meet with on the road.

Let us start, then, with our garrison town, and consequently with those of its inhabitants who play a part in the succeeding pages.

These are entitled to a chapter to themselves.

II.—GRIT.

A ROYAL WARRANT, like an octopus, has eyes, although at first sight it may appear to be all body and no head. It possesses, too, a number of far-reaching tentacles in the shape of clauses, which sprawl in all directions

round about it, and have a way of insinuating their feelers into the tiniest nooks and crannies. One of these tentacles had penetrated the seclusion of a little villa in our garrison town, and found out General Wylde. It is not surprising that he should have lived there for a number of years without attracting attention, for he was a man that was always being "passed over."

General Wylde had been long enough amongst the "unemployed" of his profession to have forgotten the little he ever knew about the duties of a soldier, and when, as was now the case, consigned by Royal Warrant to actual retirement, he was not conscious of any violent metamorphosis in his personality. The edict affected his mode of life not at all, and made no appreciable alteration in his circumstances. It was but a touch that pushed him a little farther back on the shelf of obscurity, where he had rested and rusted for so long, moving him just far enough to leave him out of sight of the authorities for evermore. Still, General Wylde felt a certain gratification in being noticed at all, and as he read the morning paper which confirmed the news a complacent smile illuminated his benevolent old face.

When he had satisfied himself as to the correctness of the details, he laid the paper down and sat contemplating the transition through which he had passed, looking more like a bishop and less like a general than usual; for his was a face intended by nature to beam over a white choker rather than to glower over a stiff stock. It was round and rubicund, and adorned with whiskers and moustache that had evidently not been lately trimmed by a Bond Street barber. His blue eyes were by no means fiery; his bald head, fringed with grey, might have shone in a pulpit, though it never had on a battle-field; and his figure, rather inclined to corpulence, would have done more credit to an apron than a tunic. In fact, it was generally said of the benign old gentleman, that in choosing a profession he had mistaken the colour of his cloth, and, like an unfortunate roulette player, had lain his stake upon the red when he should have risked his all upon the black. As he sat in his arm-chair with his feet upon the fender of the empty grate (for it was a July morning), smiling quietly to himself, no one would have supposed, to look at him, that he had been waiting for more than half an hour to attack the breakfast that was getting cold on the table beside him. But Mrs. Wylde was rather late that morning, and the General never did anything without his wife's full knowledge and concurrence. Generalship, like charity, though no doubt it should, does not always begin at home, and the little gentleman's sway in his own house was by no means despotic; for there he rarely acted upon his own responsibility. The copy-book maxim, "Through obedience learn to command," had made such an impression on him in

his childhood that he had acted on the precept ever since; and with increasing conscientiousness since the date of his second marriage.

He was patiently awaiting the advent of Mrs. Wylde, and at last his patience was rewarded.

The door opened, and a tall, fair woman, with a face more remarkable for the regularity of its features than the sweetness of its expression, and whose figure was evidently innocent of the compressive influence of whalebone, entered, or rather tottered into the room, and seated herself languidly in a very easy chair at the head of the table.

Poor Mrs. Wylde is an invalid. She looks healthy enough, but appearances are misleading, and she has some nervous complaint which weakens her constitution, although it rather tends to strengthen her authority over the little General.

When first this misfortune overtook her, which it did without apparent cause, her husband had been greatly alarmed. Physicians were called in; enormous fees were paid out of his slender purse; air cushions and invalid chairs were procured; but all to no purpose. Perpetual rest did her no good; her case baffled the doctors, who hinted "hysteria," much to their patient's disgust.

The General seated himself opposite his wife, and inquired after her health, as was his morning custom.

"I have had a very bad night, thank you," replied Mrs. Wylde, with a sigh, as she began to pour out coffee. "I suffer more and more every day from palpitation, and am seriously thinking of calling in Dr. Strong this morning."

The General expressed sorrow, but not surprise. He was accustomed to seeing Dr. Strong in medical attendance on his wife at least once a week, and generally on account of some fresh complication in her mysterious disease.

"My name is in the paper as retired, Catherine," he said cheerily in the hopes of giving a livelier turn to the conversation.

"How you do jump from subject to subject, Walter. Well? go on."

This was not encouraging, but he made the best of it.

"I've doffed the sword for ever," he said gaily, "and may live now just as I please."

"You have done that for years past, Walter, and beyond decreasing your income, I see nothing in the news to be pleased at. Where is Meg, I wonder?"

Although tangential digressions from the topic under discussion were forbidden the General, Mrs. Wylde was evidently not similarly restricted; but she was delicate, whereas her husband was robust.

The Meg so suddenly alluded to by her was their daughter Margaret, the only child that had blessed the

second marriage of the General; and a very doubtful blessing Miss Meg was. She was as grit in the domestic wheels, which for many years had wanted oiling sadly. In contact with her mother's sensitive organization she acted like sand-paper to a sore place, and how to prevent unpleasant friction was a source of constant anxiety to the general, who, in confidence to his crony the Admiral next door, had once described his daughter's presence at home as "like a hurricane in a house."

"I have not seen her this morning," replied the General. "Perhaps she has gone for a walk. It was so fine before breakfast that I was half inclined to go for one myself."

"It would have done you all the good in the world, Walter, if you had; but we are discussing Meg. I do not at all approve of her going out at all hours by herself as she does, and I wish you would use your influence in the matter. You know I am not able to see to things as I once could. I cannot bear unpunctuality either," added Mrs. Wylde, glancing at the clock.

The General opened his mouth as if to speak, but closed it again without saying anything.

"I know what you were going to say," said his wife; "you were going to complain of my being late this morning. Now you know that, when in even tolerable health, I am always punctual to a moment; but after a night of agony, it is, perhaps, not wonderful that I should take advantage of the few hours' sleep that I can get in the early morning."

"But, my dear, I was not thinking of you," said the General, truthfully but inadvertently.

"No, Walter," returned his wife, with much asperity, "I dare say not."

"But you just said——"

"My dear Walter, never mind. I cannot bear argument, and I would far rather suffer in silence than enter into a discussion about myself; so we will, please, let the matter drop."

The General stuffed his mouth with toast, perhaps to preclude the possibility of answering, and the silence that ensued remained unbroken until he had finished his egg, when he remarked reflectively:

"Meg is a difficult girl to understand."

"You don't really think so, Walter. You only say that to try and deceive yourself. You know that she has a wilful disposition as well as I do."

"I think she has a good heart for all that," suggested the General after a pause.

Further canvassing of Meg's merits and defects was here arrested for the time by the entrance of the young lady in question.

Margaret Wylde, as she stood for a moment framed in the doorway, formed a pretty picture of youth, health, and strength, if not of actual beauty. She was dressed in a riding habit, which fitted the contours of her grace-

ful figure to perfection. In her hand she carried a short hunting crop and a round felt hat which she held by the elastic and swung backward and forward somewhat carelessly. She had dark grey eyes, a straight nose, masses of dishevelled black hair on her comely little head, roses on her cheeks, a small mouth, and a flash of pearly whiteness between her lips. Such was Meg: a full bud about to burst into the bloom of womanhood.

"Good morning, Papa," she said, throwing her hat and whip into a corner and kissing her father. "Good morning, Mother," she continued, seating herself at the table, but not offering to repeat the salute. "What is there for breakfast? Eggs? Poached—I wish they were boiled—cold, too—well, never mind; hurry up with the coffee, Mother, and I dare say I can wash them down, hot or cold, for I'm hungry."

"Whose fault is it that the eggs are cold?" asked the injured mistress of the house sharply.

"Not the hen's, I expect," replied Meg.

"And why are you so late for breakfast?" continued her mother.

"Because I have been out riding on the common, looking at the drill; and because no one has ever given me a watch."

"Whose horse have you been riding?"

"Tommy Bowles's; and he borrowed Mrs. Spreditt's saddle, and he says I ride very well, and I thoroughly enjoyed myself."

"Can't you find anything better to do than always looking at drill?" pursued her catechist.

"No, I can't, and that's the fact."

"I have told you over and over again, Meg, that I disapprove of your always being about alone in this way."

"I wasn't alone."

"She wasn't alone, Catherine," put in the General mildly, "and another day I will go with her, my——"

"Please do not interrupt me, Walter," said Mrs. Wylde, frowning ominously at the would-be peacemaker. "Who was with you?" she continued, turning to her daughter again.

"Captain Merrithort for one, Tommy Bowles for another."

"There!" said Mrs. Wylde triumphantly, looking across the table at her husband. "Tommy Bowles, indeed! It is positively unladylike," she continued, again addressing Meg; "and I wonder you are not ashamed to be seen perpetually hanging about the heels of some officer or other calling him by his Christian name. However, for the future understand you are never to leave this house alone without my permission."

Meg looked at her mother for a moment, and then, I am ashamed to say, burst into a merry laugh. "Papa doesn't mind; do you, Dad?" she said.

"I think, Meg, your mother is right in the main," replied the General feebly.

"Well, why doesn't my mother take me out herself like other girls' mothers? Why should not I go to the officers' balls and dances properly *chaperoned* like other girls, instead of always having to ask Mrs. Spreditt or someone to take me? Why was I sent to a school that I was obliged to run away from, and where I learnt nothing, instead of being taught properly at home? Why can't I do what other people do without being found fault with? If the officers are jolly, why shouldn't I talk to them? I like them and they like me. There is no harm in going to see them drill, and I shall if I like."

"Margaret!" said Mrs. Wylde, in her most sepulchral tones, "please hold your tongue."

"I *shan't*," said Meg. The girl rose from the table, her lip quivering with passion, her cheeks flushed, and her eyes flaming defiance. "I *shan't* hold my tongue," she repeated, stamping her foot upon the ground. "I am nineteen years old, and I will not be spoken to as if I were a child—even by you," and Meg rushed from the room, slamming the door behind her.

Mrs Wylde gasped. "That is the result of your want of firmness, Walter," she said, rising painfully out of her chair. "My nerves cannot stand her violence. Some day she will kill me. I shall be obliged now to keep quiet upstairs for the rest of the morning." By slow degrees she too left the room.

Scenes of this description were by no means uncommon in the little family circle, and when the General found himself alone he sighed as he had often sighed before. Passing his fingers thoughtfully through his scanty locks, he muttered to himself that "it was all in a day's march."

As he sat slowly rubbing his bald head and gazing at the egg cup before him without seeing it, looking the picture of perplexity, many thoughts were passing in quick succession through his brain; thoughts of youth and gaiety and careless irresponsibility, the joys of which are never estimated at their value until lost for ever. Was it thirty-eight years ago? Yes; thirty-eight long years since he had first put on a scarlet jacket, and with it manhood, as he then thought. A child—a veritable child, that subaltern seemed to the General now, and very little more than a child when promotion brought him a step in rank, and with it sobered thoughts, prompted by the smiles of a woman's well-remembered face. It was that dear face that had first made him sicken of the mess-room life, and long to call some place his home beyond the white-washed walls of a noisy barrack square. And he had had his wish; but the few years enjoyment of it had been all too brief,

and while his son, now a man with a wife of his own, was yet a flaxen-headed baby, majority and widowhood had come together. Attempts to return to the old ways and haunts that had once been the source of all his pride and pleasure, had only tended to intensify the feeling of terrible loneliness that had fallen like a pall upon his life; and twenty years ago the Colonel had married for the second time, thinking that a woman's sympathy would be a comfort to him for the remainder of his days. Meg, his child, was now a woman—and life looked all so different to the General to what it had seemed to the subaltern those eight and thirty years ago. Ah! where were now ambition, pride, and genial gladness? The hill of life had been ascended with firm and confident steps, the summit had been reached and paused upon for a time, while those behind were struggling on, and those in front were passing out of sight; and now the downward path was being tracked, slowly but surely, down—down, till soon the infinite abyss would yawn at his feet and receive him into its grim darkness, and the mists would close about and around him, and the General would be forgotten for evermore.

"Ah!" he sighed as he rose from his chair, "I'll go and smoke a pipe in the garden."

The small garden at the back of the house was the general's recreation ground and his delight; in it he grew potatoes that by the time they were ready for the table cost more apiece than his greengrocer would have charged for much better ones; here he struggled with celery, which in spite of his incessant care always grew up stringy; planted seeds, most of which the birds raked up before they got a chance of showing leaf; and kept a few fowls which very seldom laid.

The General, accoutred in a very dirty coat, his trousers turned up to his ankles, a pipe in his mouth, and a battered straw hat upon his head, betook himself to his garden, and proceeded to hoe. He had worked himself into a gentle heat, and had paused in his work to mop the perspiration from his forehead, when he became aware that his daughter was standing at his side watching his movements with her grey eyes.

"Hallo, Grit!" he said; "have you come to help me?" When alone, and in moments of excitement or affection, the General sometimes called his daughter Grit.

"I will if you like, Dad," she said, "but I came to say that I am sorry if I said anything at breakfast to vex you." She laid fearful emphasis on the pronoun.

"Oh, Grit—Grit, my dear!" said the General, laying his dirty hand affectionately on the young girl's shoulder, and looking solemnly in her face; "you're a dreadful trouble to me, Grit."

THE LATE SULTAN OF ZANZIBAR.

By CAPT. H. BERKELEY, R.N.



ITH the death of Syed Burhash bin Said, G.C.M.G., the late Sultan of Zanzibar, there may be said to close one of the most eventful chapters in the history of the country he ruled so well and so wisely; for it marked the veritable suppression of the slave trade, that is to say, the Government were in earnest about the matter for the first time.

Adversity had brought home to the late ruler of Zanzibar that the maxim "Honesty is the best policy" was one which might be depended upon under all or any circumstances where the British nation were concerned in relation to the suppression of the slave trade. Syed Burhash had learnt this lesson in exile both in Muscat and in India. The story of his exile is very simple, and is as follows: In 1858-59 the late Emperor of the French was very anxious, or his Government were, which was much the same thing, to advance the prospects of the Isle Reunion and its dependencies, Nossi Bay in Madagascar, and the island of Mayotta in the Comoro group of the Mozambique Channel; and to do this it was necessary to import labour from the main land of Africa. Now the English ships cruising in those waters kept a vigilant look-out that no "Cultivators," or "Labourers" as the French agents called them, should work the French dependencies without being submitted to an English slave-court having jurisdiction in all matters relating to slavery, and of slaves captured on the high seas. This mode of procedure being the reverse of agreeable to the French authorities, they tried to induce Syed Marjid, the then Sultan of Zanzibar, to permit his subjects to be deported to their colonies; but Syed Marjid, true to his obligations with the British Government not to permit slaves to be deported from his dominions, not only suppressed the application, but showed the whole of the correspondence to the British Consul, General Christopher Palmer Rigby. But of this latter fact the French authorities were not aware, and finding the Sultan obdurate, they approached Syed Burhash, his brother, who, misled by specious promises of what would be done for him if he furthered the slave trade, determined to rise in rebellion and dethrone his sovereign, reign in his stead, and do as seemed good, in not only his own eyes, but unfortunately as seemed good in the eyes of the great majority of the inhabitants of the islands of Zanzibar; but "The best laid plans of mice and men gang aft agee" as our northern poet predicted, and so it was in this case. That astute Indian officer and Political Resident, General Rigby, was watching the game from

behind the bush, and, popping out at the right time, called to his aid Her Majesty's Indian cruiser the *Assaye*, commanded by Captain Adams, and H.M. steam gun-vessel the *Lynx*, commanded by Lieutenant Henry Berkeley, R.N. These vessels arrived in the nick of time, and forming a naval brigade, the men were landed under the command of the latter officer, and, after one or two movements and operations, Syed Burhash was taken prisoner, his principal fortresses taken and blown up, and he himself sent an exile out of his country.



SULTAN OF ZANZIBAR.

Unlike many exiles he profited by his adversity, and learnt to distinguish the relative values of the advice tendered him by the French and British Governments. Through submitting to the behests of the former he found himself an exile, while his brother, Syed Marjid, by taking the advice of the latter and displaying an honourable observance for treaties was supported by the English at the right time and was more firmly seated on his throne in consequence. Syed Burhash determined in future that this lesson should not be thrown away upon him should he ever return to Zanzibar. And he kept his word, though the task was anything but an easy one, as the greater part of the late Sultan's lieges looked upon the slave trade as a fair and perfectly legitimate means of gaining a livelihood, and once or twice, aided by the Northern Arabs, principally of the Athlee tribe, they were almost too strong for Syed Burhash. But, aided by Sir John Kirk

and other political agents at his court, he always managed to keep on good terms with this country, and during the troubles of 1886 and 1887 by accepting the advice of our representatives, he saved his dominions from the unjust encroachments of the Germans no less than of the Portuguese. It was one of the characteristics of the late Sultan, that he could instantly recognize the inevitable, or in common parlance, "he made the best of a bad job," and accepted, if not gracefully, at least with equanimity, an untoward situation.

Zanzibar has always been the head-quarters, or rather the point of departure, of recent expeditions for the exploration of the "dark continent"; and it was here that Stanley, the American explorer, succeeded in

little or nothing else to trade in. Hence, if foreigners created new demands for trade they would be of use in his dominions. Therefore, the Sultan welcomed with a good grace expeditions which have been the indirect means of making Zanzibar a most important centre of commerce. His fleet was a most respectable one for what it had to do, and he gave it his most careful supervision, and, as a means of economy, employed his ships in taking pilgrims to Djeddah from Muscat as well as from his own dominions. A staunch Mohammedan himself, he was yet liberal-minded enough to present Bishop Steer's Memorial Church with a clock and peal of bells. Now this church was in commemoration of the suppression of the slave trade. The Sultan-designate is his brother, Syed Khalifah, one of the



ZANZIBAR.

inducing the English expedition not to proceed in their search after Doctor Livingstone, much to the surprise of the English people, and of His Highness the Sultan of Zanzibar, who had used his influence to forward the expedition, though well aware that the opening up of Africa to European influences would be detrimental to his authority and, in some measure, to his interests, though, on the other hand, it might by affording his subjects new facilities for trade wean them from the hateful traffic in slaves. Arabs are born traders, and they deal in slaves because there is always a sure market for them, and because they not only find their own transport, but also carry loads for their masters. And last, though not least, that when you have excepted seed-oils, ivory, and beeswax, there is

youngest of the fifteen sons of Syed Said, the last Imaum of Muscat, as well as Sultan of Zanzibar. On his death Muscat passed to the rule of Sultan Syed Turky, and the title of Imaum lapsed. The late Sultan wished that his son, a boy of thirteen, should succeed him, but for reasons of state easily to be divined, it was thought best that the Government should be in the hands of a man who would carry out his predecessor's policy. Zanzibar, as a coaling station, in a war between ourselves and any other nation, would be of the greatest importance, now that we have given up Johanna in the Comoro group of islands. With the French at both ends of Madagascar, the Mozambique Channel would be a sealed passage to our commerce; hence the importance of Zanzibar for us.

MILITARY PROBLEMS.



T is proposed to submit to our readers monthly a few problems on service subjects for solution. These will be kept within the reach of those who possess ordinary professional attainments; scientific officers are therefore warned off. Solutions of these problems, with all necessary diagrams, will be published in our issue next following their first appearance.

Two prizes will be given twice a year to successful solvers, viz.: a first prize of £3, and a second of £2. A certain number of marks will be allotted to each problem, and the solvers making the greatest aggregate scores will be considered the prize-winners. The marks will be awarded by the Problem Editor, against whose final decision there will be no appeal.

Solvers may use a short *nom de plume*, but must (in confidence) send their names and addresses to the Problem Editor.

Solutions of these problems should reach the office of this magazine not later than the 15th of each month.

Suggestions for the enlargement and improvement of this scheme, subject to the condition of the problems not being made too scientific, will be gladly received and considered.

All communications on this subject should be addressed to

THE PROBLEM EDITOR,
Illustrated Naval and Military Magazine,
18 Waterloo Place,
London, S.W.

No. I.

PROBLEM IN FIELD FORTIFICATION.

A square redoubt of 70 yards, each side, is to be constructed on a plateau whose general level is 200 feet above the sea.

It is commanded to the north by another plateau, whose general level is 295·5 feet above the sea; the enemy's position on this may be assumed as being 900 yards distant from the centre of the redoubt.

(a.) Calculate the COMMAND to be given to the northern parapet (which is to run east and west) so as to defilade from musketry fire, to 7 feet, the centre of the redoubt.

(b.) Assuming that a parados is to be built across the centre of the redoubt parallel to the northern parapet, calculate the HEIGHT to which it must be raised so as to give 7 feet of defilade from musketry fire to the banquette of the southern parapet, the latter having a command of 7½ feet.

(c.) Draw to scale a PROFILE of the northern face of the work, assuming a thickness suitable to resist 16 lb. field guns. The necessary earth to be obtained from a ditch 10 feet deep, and trench, in the proportion of $\frac{2}{3}$ ths from the former and $\frac{1}{3}$ th from the latter (Remblai and Déblai may be assumed as equal); normal slopes, depths, and other dimensions not given or previously calculated are to be assumed.

(d.) What TIME will be required to complete the parapet of this work assuming it to be executed by infantry who can work at the rate of 20 cubic feet per hour?

(e.) What would be a sufficient GARRISON for the defence by infantry of this work, all the parapets being fully manned, and $\frac{1}{4}$ th of the garrison being kept in reserve?



THE GRENAIDIERS OF THE BRITISH ARMY.

BY CAPTAIN ROBERT HOLDEN, A.D.C.,
4TH BATT. WORCESTERSHIRE REGIMENT, AUTHOR OF "ORIGIN AND DEVELOPMENT OF LIGHT INFANTRY."

"*Sergeant Kite*.—Gentlemen, I don't beat my drums here to ensnare or inveigle any man; for you must know, gentlemen, that I am a man of honour; besides, I don't beat up for common soldiers; no! I list only grenadiers—grenadiers, gentlemen. Pray, gentlemen, observe this cap; this is the cap of honour; it dubs a man a gentleman in the drawing of a trigger; and he that has the good fortune to be born six feet high was born to be a gentleman. Sir, will you give me leave to try this cap upon your head?" *



THE institution of grenadiers originated in the French army, from which it was borrowed by the English in 1677. They were, as their denomination imports, soldiers trained to the art of throwing hand-grenades.

Grenades † or grenados were an invention of Spanish origin, and simply an improvement upon, and a development of, the more ancient missile known as a bomb.

The bomb appears to have been used from a very early period. Indeed as early as 1472 in a book published in Latin at Basle Valturius describes it as a brazen ball filled with powder and fired out of cannon; and this ball, or shell, was long accepted as the prototype of the bomb, though many authorities of the present day doubt its being one, but simply a shell filled with some composition for setting fire. A bomb, on the other hand, is an explosive which on bursting scatters its broken fragments about in all directions, breaking and destroying everything around it.

The correct theory appears to be that the grenade, or explosive shell, was first invented in the sixteenth century during the reign of Francis I., and could be fired out of a cannon, ignited and thrown by the hand, or fired out of a hand-mortar.

Grenades were used at the siege of Rouen in 1562, where the Count de Rendan was killed by the bursting of one; ‡ and were employed with some success at the siege of Vaktendouck, in the Low Countries, in 1581. §

We have evidence, a little later, of the use of hand-grenades, for at the siege of Ostend in 1601, the defenders are said to have had a "great store of hand-

* *The Recruiting Officer*, by George Farquhar. Once a soldier, first an actor, born 1678, died 1707.

† Some consider the word grenade to be derived not from Grenada in Spain where it is supposed to have been first invented, but from the latter part of the word pome-granate (*pomum-granatum*); to which fruit both in outward form and interior arrangement it bore a resemblance.

‡ Memoirs of Castelnau.

§ Daniel's *Histoire de la Milice Frangoise*, vol. i. p. 580.

grenadoes," * and Ward, in his *Animadversions of Warre*, published in 1639, speaks of hand-grenadoes. But they were evidently missiles requiring careful and experienced treatment, for Nathaniel Nye, "Master Gunner of the City of Worcester," in his *Art of Gunnery*, published in 1647, remarks that the soldiers of his day were by no means fond of handling them. They were loth "to meddle with the hand-grenadoes, the using of them being somewhat dangerous."

Grenades were manufactured in England, certainly in 1660, for amongst the new appointments to the Office of Ordnance at the Restoration was one dated 14 Sept. 1660, granting to "George Browne, Esq., the office or offices of gun founder and of casting and making of brass and iron ordnance, guns and mortar-pieces, and of gunstone maker, and contriving and making of granadoes, iron bullets and shott for His Majesty's service, from henceforth for the term of one and twenty years, with the wages and fee of four shillings by the day."

Having traced so far the introduction of grenades as explosive missiles for weapons of infantry, I will endeavour to show how grenadiers or soldiers specially selected and trained in the art of throwing them came to be introduced and the system developed.

As I have already stated, they originated in the French army. In 1667 Louis XIV called for volunteers to act as grenadiers, four of whom were added to each company of the Régiment du Roi. In 1670 they were formed into one company, the command of which was given to M. de Riotor, who had the honour of being the first captain of grenadiers. Their adoption is thus explained by Marshal Puységur, in his *Art de la Guerre*, vol. i. p. 222:—"Louis XIV having formed many sieges, at first volunteers were invited for throwing the grenades. At length His Majesty resolved to establish companies for that service. They had pouches to carry the grenades, and small hatchets to use in attacks in the trenches and other places, for cutting down palisades, and breaking through doors." In 1676 Louis XIV. extended the system by forming the company of "Grenadiers à cheval," consisting of 190 men with their special officers. They carried, besides their pouch of grenades, sword, fuzil, and pistols.

The introduction of grenadiers into the English army

* Commentairies of Sir Francis Vere, p. 170.

soon followed their establishment in France, for fortunately a spirit of improvement had awakened in England, and there appears to have been every disposition to adventure upon change when sanctioned by competent authorities. In May 1677, Captain Charles Lloyd, of the King's Regiment of Foot Guards, now Grenadier Guards, was directed to instruct and train for the duty of grenadiers, a squad of 54 men, composed of two men selected from each of the seventeen companies of the King's Foot Guards, and two from each of the ten companies of Coldstream Guards. Their accoutrements consisted of a grenade-pouch, fuzil and bayonet, with a hatchet and a girdle. This may be considered to be the first introduction of grenadiers into the British Army, their permanent establishment did not take place till the following year.

The instruction of this squad in the exercise of the grenade having been completed, and the experiment apparently satisfactory, orders were issued on the 28th March 1678, for one company of grenadiers, consisting of a captain, two lieutenants, three sergeants, three corporals, and 100 men, to be raised and attached to each of the eight senior regiments which had been formed or were in course of formation, viz.:—

King's Regiment of Foot Guards (now Grenadier Guards).

Coldstream Regiment of Foot Guards (now Coldstream Guards).

Duke of York's Regiment.

Holland Regiment (now the Buffs, East Kent Regiment).

Duke of York's Regiment.

Duke of Monmouth's Regiment. } afterwards

Sir Charles Littleton's Regiment. } disbanded.

Sir Charles Wheeler's Regiment.

The men were armed with fuzils, daggers (or bayonets) made to screw into the muzzles of the pieces, swords, and small hand hatchets; and carried cartridge-boxes and pouches to hold the grenades. Their clothing was distinguished by high-pointed caps, and red and yellow uniforms. Subsequently, a piece of fringed or tufted cloth was added to the top of the sleeve, probably to give an appearance of breadth of shoulder, and this is said* to have been the origin of the ornamental wings by which grenadiers were distinguished in modern times. Grenadiers were at the same time added to the cavalry, a troop being added to each of the three troops—or what would now be called regiments—of Horse Guards. To His Majesty's own troop one captain, two lieutenants, three sergeants, three corporals, two drummers, two hautboys, and eighty privates were added; and to each of the Queen's and the Duke of York's troops one captain, two lieutenants, two sergeants, two corporals, two hautboys, and sixty privates were added.

* Scott's *History of the British Army*.

These troops were called Horse Grenadier Guards, and, like the foot, their arms consisted of fuzil and dagger, hatchet, sword and pistol. They carried a cartridge-box with ammunition for their fuzil, and a grenade pouch with grenades. They also wore caps and looped clothes, as we read in the old grenadier song:—

Whene'er we are commanded to storm the palisades,
Our leaders march with fusils, and we with hand-grenades;
We throw them from the glacis about the enemies' ears,
Sing tow row row row row for The British Grenadiers.

Then let us fill a bumper and drink a health to those
Who carry caps and pouches and wear the loupéd clothes:
May they and their commanders live happy all their years,
With a tow row row row row for The British Grenadiers.

Evelyn, referring a few years later to the introduction of Horse Grenadier Guards says: "The King had



A GRENAIDER OF THE LINE, 1742.

now augmented his guards with a new sort of dragoons, who carried also grenados, and were habited after the Polish manner with long peaked caps, and looking very fierce and fantastical." Chamberlayne, in his *Angliae Notitia*, says: "There is lately added a troop of grenadiers to each troop of guards, one division of which mounts guard with a division of the troop to which they belong; but they never go out in small parties from the guard, only perform sentry-duty on foot, and attend the King also on foot when he walks abroad, but always march with great detachments."

On 28th June 1878, the King reviewed the following

regiments, which were encamped on Hounslow Heath:—Three troops of Horse Guards, with their newly-raised troop of grenadiers, and 5 regiments of cavalry, 1 battalion of the King's Foot Guards, 1 battalion of Cold-stream Guards, each with his grenadier company. Evelyn, in his memoirs, recounts that in the same month he visited the camp, at which time “were brought into service a new sort of soldiers called grenadiers, who were dextrous in flinging hand-grenados, each man having a pouch full. They had furred caps with coped crownes like janizaries, which made them look very fierce; and some had long hoods hanging

The Dress Regulations of 1st September 1684 give the uniform of the grenadiers, but that of the King's Guard is better described in the account of the coronation of James II., on 3rd May 1685, and reproduced in Hamilton's *History of the Grenadier Guards*:—“The two companies of grenadiers were clothed like the musqueteers, but distinguished by caps of red cloth, lined with blue shalloon, and barred with silver galloon round the edges. On the frontlets of these caps, which were very large and high, the King's cypher and crown were embroidered. Each grenadier was armed with a long carbine, the barrel of which was 3 feet 2 inches in length, with a cartouch box, bayonet, grenade-pouch, and a hammer hatchet.”

In the year 1685 the King augmented the cavalry establishment by the addition of several regiments of dragoons, who (if Cannon's histories of regiments be correct, and they ought to be, for he had access to all official papers, &c.) were in reality grenadiers, their equipment, according to Regulations dated 21st February 1687, being “snaphance musquets, strapt, with bright barrels of three foote eight inches long, cartouch-boxes, bayonets, granado-pouches, bucketts, and hammer hatchets.”

The drill of the grenadiers, both horse and foot, is described in the *Abridgment of Military Discipline for the use of H.M. Forces*, published by authority in 1686. Horse grenadiers were armed like the foot, and in the field acted in the same manner. When mounted they rode three feet apart, and “being thus marched into the field, their arms charged, and their hats on, the word of command being given to halt, the officer in chief, commanding silence, is to proceed” with the exercise. They then dismounted, linked their horses, fired, and screwed their daggers into the muzzles of their fuzils, charged, returned their daggers, fired, and threw their grenades by ranks, the centre and rear ranks advancing in succession through the intervals between the file leaders; they then ground their arms, turned to the right about and dispersed. The following are the words of command in the grenade exercise, after slinging the muskets:—“Handle your pouch”—“Open your pouch”—“Take forth your grenade”—“Shut your pouch”—“Uncease your fuse”—“Handle your match”—“Blow your match”—“The first rank fire your fuse”—“Deliver your grenade”—after which the centre and rear ranks marched through successively six feet in front of the first rank, with their matches ready to blow, fixed their fuses, and delivered their grenades. Each rank in succession then fired its muskets and fixed daggers or bayonets. They then unscrewed their daggers, grounded arms, turned to the right about and dispersed. At the “preparative” or beating to arms on the drum, they drew swords and fell in with an huzza, then returned swords, slung



A GRENADIER OF THE LINE, 1768.

down behind as we picture fools, their clothing being likewise pybald, yellow and red.”

In the List of the Army, published in 1684, grenadier companies, which are shown in most of the infantry regiments, appear to have been armed with muskets and bayonets, and they wore caps, but no mention is made of swords, though they certainly carried them. But perhaps this is accounted for by the fact that swords were said to have been the private property of the soldiers.*

* Scott's *History of the British Army*, vol. iii.

their fuzils, marched to their horses, unlinked, and mounted.

The exercise of the foot grenadiers was similar. They fell in three deep, fired, fixed and screwed their daggers into their fuzils, unscrewed them, loaded, and after slinging their firelocks, proceeded with the grenade exercise exactly as the horse grenadiers performed it on foot. After throwing their grenades, they seized their hatchets, with which, on the word of command to *fall in*, they rushed upon the enemy with an huzza, the drums beating at the same time. When drilling, and after having ground arms and dispersed, when the drum beat, they drew their daggers, ran to arms with an huzza, unscrewed daggers, and fell in at the shoulder.

Those who wish to pursue further the subject of the drill, I would refer to the above-mentioned work, also *The Exercise of the Foot by their Majesties' Command*, published in 1690; the *Perfection of Military Discipline*, published in 1701; and the *Compendium of Military Discipline*, published in 1726.

The equipment of a grenadier being heavy, it was absolutely necessary to select the strongest and largest men for the service, and they were probably rarely less than six feet in height. Each grenade alone weighed between three and four pounds, and three of them were delivered to each man on service, who had also to carry rounds of ammunition for his fuzee, and take care of his burning match.

I cannot discover that officers of grenadiers in the English army ever carried and threw grenades as the men did. They used to, however, in the French army, and we have an illustration of this fact at the siege of the town of Athlone in 1691. "On the next day a battery was raised, and a council of war was held, wherein it was resolved to storm the English town* that the Irish pretended to defend, which was done accordingly; for though the Irish made considerable resistance, yet the English went on and kept firing till they got to the breach that was made, which a French lieutenant first mounted, throwing in his grenade and firing his piece, and ordering his men to do the same, and with great bravery encouraged his party, though he lost his life in the action, and so the town was taken, and abundance of the enemy both killed and drowned in endeavouring to escape."†

But the most remarkable thing in connection with this siege was the wearing of armour by the English grenadiers. The same authority relates that "Captain Sandys and two lieutenants led the first party of sixty grenadiers, all in armour, and twenty abreast, seconded by another good body."

* Athlone was divided by the river into two parts, and called respectively the English and Irish towns.

† *Complete History of Europe*, pp. 425-6.

Hand-grenades did not long remain in use in the English Army, and it does not appear that they often met with any particular success, partly, no doubt, because they could only be used in peculiar situations, and under particular circumstances. On the other hand, we frequently read of the grenadier battalions distinguishing themselves, though their successes were not brought about by the effect of the grenades. They were probably used with most success in the campaign under William III., and the war of the Spanish succession. But on these occasions they were not unfrequently the cause of considerable confusion, with doubtful compensating loss to the enemy. When used in the defence of a besieged city or fortification they, perhaps, did most



A GRENAIDER OF THE LINE, 1779.

execution, though it is not at all clear that any other combustibles thrown amongst the besiegers would not have had an equally damaging effect. J. M. Deane, an officer of the 1st Battalion of Foot Guards, tells us, in his *Journal of the Campagne in ye year of Our Lord God 1708*, that, during the celebrated siege of the city of Lille, in Flanders, the soldiers who were not "killed or wounded were spoiled by enemy's hellish inventions of throwing bombs, boyling pitch, tar, oyle, and brimstone, with scalding water and such-like combustibles, upon our men from the outworks, and when our men made any attack; likewise many other inventions, enough to pussele the devil to contrive, which would be tedious to relate."

The English Grenadiers suffered especially during this siege; indeed, so many had been killed or wounded that scarcely six sound men were left in any of the Grenadier companies. The battalion was commanded by the pious Colonel Blackader, who led his men to the attack with the exhortation of "Grenadiers! in the name of God attack!" Of the enemy's operations, Deane says, "What with cannons, granadoes, bombs, and small shott; with thunder and lightning, and vast showers of rain, it seemed as if God was angry with us, which we have great reason to fear."

PART II.

I have already alluded to the success of grenadier battalions when not resulting from the use of hand-grenades. The grenadier companies, of which these battalions were formed, it must be remembered, were



A GRENAIDER OF THE LINE, 1803.

composed not only of the tallest and stoutest, but the fittest men, and as they could be detached without inconvenience from their regiments they were formed into battalions, frequently over 1,000 in strength, either for a particular action or during the war. They were in-

variably brought forward for perilous assaults; and, commanded as they usually were by distinguished officers, these battalions, though sometimes too hasty and impetuous, always earned distinction. Not only during the successive wars with Spain and France, but during the Seven Years' War, the American War of Independence, the War of the French Revolution; and last, though not least, the wars which raged in our Indian Empire at the end of the last century, until the reputation of the British Grenadiers stood unsullied and unrivalled.

An incident occurred in Wolfe's expedition in 1759, narrated by General Rigaud in his origin of the motto of the 60th Rifles—"Celer et Audax"**—which is a good illustration of the spirit which pervaded the Grenadiers of the English army generally. Wolfe concentrated his army on the 31st July, and crossed the Montmorency, below the Falls. Thirteen companies of Grenadiers and 200 men of the 2nd Battalion "Royal Americans" (60th) were the first to land. They were ordered to form in four distinct bodies and begin the attack, supported by the corps of Brigadier Monckton, as soon as the other troops should have passed the ford and be near enough to assist them. While the Grenadiers and men of the 2nd 60th were forming for this purpose, it happened that the 200 of the 60th stood on the left of their own grenadier company (which was the left company of the Grenadier battalion) commanded by Captain Wetterstrom. Lieutenant Ochterlony, who had charge of the 200 of the 60th, said to Wetterstrom, "Though my men aren't grenadiers, you'll see we shall be first in the redoubt." Fired with this speech, on rushed the Grenadiers without orders. The redoubt was at first abandoned, but the disorderly attack was checked by the heavy fire of the French and the steepness of the ascent; they, however, still persisted in the attack, as if they alone could beat the whole French army. Happily a violent thunderstorm enabled the officers to withdraw this brave but mistaken body of men, with the loss of 400 men and officers killed and wounded. Wolfe severely censured the Grenadiers on the following day, in a General Order, for their precipitancy.†

When grenades actually fell into disuse is not known. The Guards carried them in 1785, but the Dragoons had ceased to use them from a much earlier period. The drill-books after that date make no mention of a grenade exercise, nor in any drawings are grenadiers shown as carrying grenades.

* This motto originated in a gallant exploit by the grenadier companies of the 2nd and 3rd Battalions of the 60th Rifles, which another detachment of the army had failed to execute, much to the disappointment of Wolfe, who complimented the grenadiers handsomely on their success, and said that their motto in the future should be "Celer et Audax."

† A copy of this General Order is given in Parkman's *Montcalm and Wolfe*, vol. ii. p. 259.

I believe it is not generally known that grenades were used in the English army as late as 1758. On the occasion of the attack upon the enemy's shipping at St. Maloes, on the night of 7th June, a number of Grenadiers selected from different British regiments performed most important service. A number of cavalry were ordered to convey the men, each trooper having a Grenadier mounted behind him supplied with hand-grenades; and in this manner they passed unobserved under the enemy's cannon, set fire to and destroyed two men-of-war, thirty-three privateers, and seventy merchant ships and reduced all the naval stores to ashes.*

In 1751 every infantry regiment in the English army had a company of grenadiers distinguished from the rest of the infantry by their high-peaked caps. The front of these caps was the same colour as the facing of the regiment with the King's cypher and crown upon it. The little flap was red, with the white horse and motto "nec aspera terrent" over it; the turn up being the colour of the regiment's facings, with the number in the middle part behind.† The following regiments, having special distinctions, were allowed to wear them on the front of the cap in lieu of the cypher and crown, but in other respects their caps were the same as rest of the infantry:

1st or Royal Regiment—the King's cypher, within the circle of St. Andrew.

2nd or Queen's Royal Regiment—Queen's cypher, garter, and crown.

3rd Regiment or the Buffs—the Dragon.

4th or King's Own Royal Regiment—King's cypher, garter and crown.

5th Regiment—St. George and the Dragon.

6th Regiment—the Antelope.

7th or Royal Fusiliers—Rose within the garter, and crown over it.

8th or the King's Regiment—the White Horse.

18th or Royal Irish Regiment—the Harp and Crown.

* Hamilton's *History of the Grenadier Guards*.

† A cap of this pattern, as worn by an officer of the Grenadier company of the Hampshire Militia in 1760, may still be seen at the Royal United Service Institution in Whitehall Yard.

On the tombstone of a private grenadier of the same regiment, who lies buried in the Cathedral churchyard at Winchester the following peculiar epitaph was placed by his comrades:—

"In memory of Thomas Fletcher, a Grenadier in the North Regiment of Hants Militia, who died of a violent fever contracted by drinking small beer when hot on the 12th of May 1764, aged 26 years.

"Here sleeps in peace a Hampshire Grenadier,
Who caught his death by drinking cold small beer.
Soldiers, be wise from his untimely fall:
And when ye're hot drink strong or not at all."

The memorial was restored by the officers of the garrison in 1781, who added:

"An honest soldier never is forgot
Whether he die by musket or by pot."

It is still kept in preservation by the officers of the regiment, now the 3rd Battalion Hampshire Regiment.

21st or Royal North British Fusiliers—the Thistle.

23rd or Royal Welsh Fusiliers—Prince of Wales's feather and coronet.

27th or Inniskilling Regiment—the castle, and word "Inniskilling."

41st Regiment or Invalids—rose and thistle conjoined with the garter and crown over it; also trophy of drums and arms.

42nd or Highland Regiment—wore bearskin fur caps with the King's cypher and crown upon them.

Of the cavalry, the two troops of Horse Grenadier Guards, and the 2nd Royal North British Dragoons or Scots Greys, wore the Grenadiers' cap, all wearing exactly the same pattern, though the devices worked on them and the colours were different. Indeed, the whole

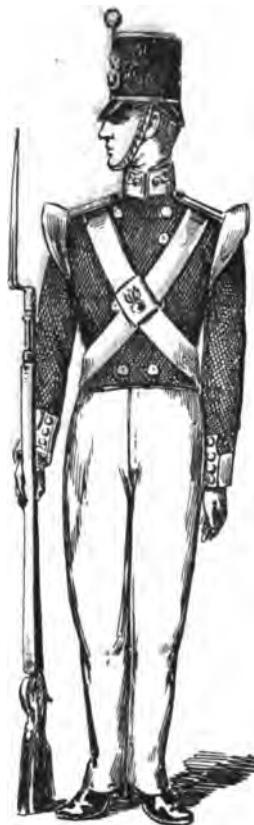


A SERGEANT OF GRENADIERS, 1827.

uniform of the Horse Grenadier Guards and the Greys was almost identical.

The Horse Grenadier Guards wore the cap because they were grenadiers, but the Greys appear to have been allowed to wear it as a distinction, though for what particular service the distinction was conferred, it has never been clearly shown. Grose says that, in consequence of the 5th Royal Irish Dragoons assisted by the Scots Greys, "making prisoners of two battalions of the Regiment of Picardie at Ramielles in 1706, and cutting a third to pieces before it could secure a retreat behind

a line of horse that were galloping to bring it off; both corps were distinguished from other cavalry regiments by being permitted to wear grenadier caps." The Greys have long worn grenadier caps, and it may have been for this service that the distinction was granted,* but I doubt very much if the 5th Dragoons ever wore them. Allowing that they were granted the privilege, it could only have been for a very brief period, for they certainly did not wear them in 1742. There is an official book in the British Museum giving a representation of the clothing of every regiment at that date, in which the head-dress of the 5th is represented as the ordinary hat worn by all cavalry regiments; and the regulations for clothing etc. issued by authority on 1st July 1751 state most distinctly that the "Royal North British Dragoons *only* are allowed to wear caps instead of hats." On their caps they had



A GRENADIER OF THE LINE, 1854.

the thistle within the circle of St. Andrew on a blue ground; and on the back part a thistle between the letters II.D. the number of the regiment.

Horse Grenadier Guards ceased to exist in the British

* After the battle of Ramillies in 1706 the Greys had the honour of receiving the surrender of the *Regiment du Roi* with their colours, etc. Now this regiment was not only one of the most distinguished in the French service, but the first in the world to form Grenadiers. This latter very important fact may have had something to do with the conferring of the distinction, though it has not, to my knowledge, been brought forward before.

army on the 25th June 1788, in which year the 1st and 2nd Regiments of Life Guards were formed, and the two troops of Horse Grenadier Guards, whose composition has already been explained, were disbanded; many of the men and horses were transferred to the Life Guards.

In 1768, the long cloth caps worn by grenadiers were discontinued, and bearskin caps introduced. During the Seven Years' War the grenadier companies did not carry swords, but on its termination they were again brought into use until laid aside by the army generally in 1784. About the year 1795 the officers and sergeants ceased to carry fuzils, swords being given to the officers and pikes to the sergeants. About the same time a further alteration was made in the bearskin cap. In 1800 caps or shakos took the place of the three-cornered cocked hats in the infantry generally, and when grenadiers wore them, which they were permitted to do on certain occasions instead of the bearskin, they were distinguished by a white tuft, and a grenade in the centre of the cockade.

The only infantry grenadier regiment in the British service at the present time is the Grenadier Guards, who earned their distinction at Waterloo: the order, dated 29th July 1815, being that "His Royal Highness the Prince Regent was pleased, in the name and on behalf of His Majesty, to approve of the First Regiment of Foot Guards being made a regiment of Grenadiers, and styled 'The First, or Grenadier Regiment of Foot Guards,' in commemoration of their having defeated the grenadiers of the French Imperial Guards upon the memorable victory of Waterloo"; and from this period the whole regiment adopted the bearskin cap. But the honour of being the first grenadier infantry regiment in the British army must be conceded to the present Northumberland Fusiliers (5th).

In commemoration of the distinguished services of the 5th Regiment in the woods of Wilhelmsthal, at the battle of Groebenstein, on the 24th June 1762, when the French camp was surprised, and the whole regiment D'Aquitaine with five regiments of grenadiers forced to lay down their arms and surrender their colours, the regiment was permitted to exchange their hats for the French grenadier cap, and for many years afterwards retained it instead of the hat then used by the infantry of the Line.

At the reduction of St. Lucie in December 1778, the regiment obtained the privilege of wearing a white plume instead of the red and white tufts borne by the rest of the Line, having taken from the bodies of the slain French Grenadiers as many white feathers as sufficed to equip every man in the regiment. When the distinction ceased to exist, through the whole of the infantry adopting white feathers in 1829, George IV. commanded that the regiment should henceforth wear a

feather, half red and half white, the red uppermost, as a peculiar mark of honour.

In further commemoration of the services of the 5th at the battle of Groebenstein, His Majesty in 1835 commanded that "the regiment shall be distinguished by wearing grenadier caps, with the King's cypher, W. R. IV., in front, and the ancient badge of the regiment, viz. St. George killing the Dragon, on the back part." But on account of the strong opposition raised by the Grenadier Guards to the regiment usurping their title of Grenadiers the 5th never actually became Grenadiers nor wore the grenadier cap, not even when the regiment became Fusiliers in 1836, as they happened to be abroad at the time; both Cannon's history of the regiment and Major Fitzroy's account are incorrect and misleading on the point.

An officer who joined the regiment in 1837 is my authority and his version is entirely borne out by a letter I have received from Lieut.-General Milman, C.B., Major of the Tower of London, who writes as follows:—

"The 5th were gazetted as Fusiliers, May 1836, in consequence of the Royal command and permission, given in July 1835, for wearing grenadier caps, as it was said they were not made 'Grenadiers,' because a representation came from the Grenadier Guards, who wished to keep that name distinct for themselves. The 5th at that time were in the Mediterranean, in which climate bearskin caps were never issued, so a shako, with a long red and white plume and a large grenade in front, was given. I joined, myself, in 1839, with a bearskin cap, much as you see in the Records, as well as a shako, but never wore the former. When the regiment was ordered home in 1843, the bearskin caps had been discontinued (the Guards excepted), the shako had been changed in shape, and Fusilier regiments received as a distinction a horsehair plume instead of a ball as the rest of the Line regiments. Now a busby has been given to Fusiliers.

"Yours truly,

"BRYAN MILMAN, Lieut.-General.

"Twenty-six years in the 5th. Never in any other Regiment."

From the year 1815 there is nothing special to record in regard to Grenadiers. They were never afterwards called upon to perform any special service, though the companies retained in every way their distinction, in dress, physique, and general appearance. Bearskin caps* were given to the Coldstream and Scots Fusilier Guards in 1832, at which time it was ordered that all distinctions between flank and battalion companies in the three regiments of Foot Guards were to cease.

* The Household Cavalry wore bearskin caps for a short period before 1830.

About ten years later grenadier companies and fusilier regiments were ordered to discontinue wearing the bearskin cap, the Foot Guards alone being allowed to retain them. The only distinctions then left to grenadier companies were wings in lieu of epaulets, and the grenade for a badge on the caps and collars of the coatees. By a General Order, dated Horse-Guards, 24th December 1857, abolishing all flank companies, grenadier companies—an institution of nearly 200 years standing—ceased to exist, and the Scots Greys and the Grenadier Guards remained the sole representatives of the once famous British Grenadiers.

Other branches of the service wore the badge of the grenade though few of them had much right to it. At the present time the Royal Artillery, Royal Marine Artillery, Royal Engineers, and regiments of fusiliers have the grenade as a badge. On what principle



A PRIVATE OF THE GRENADIER GUARDS, 1887.

fusilier regiments wear it is difficult to discover. Distinguished as their services always have been, never during their whole existence did they carry or use hand grenades. They were originally raised to protect the artillery, were armed with fuzils, and allowed to wear caps like those of the grenadiers to distinguish them from the rest of the infantry. The artillery have a better claim, as they used formerly to fire grenades out of cannon, but the engineers have the only real right as they have now taken the place of the old grenadiers.

Very few people are aware that grenades are manufactured at the present time in England, that they are kept in store at our great arsenals, and that the Royal Engineers are practised in throwing them. The official *Instruction in Military Engineering*, which gives the grenade drill, says: "Grenades are small spherical shells, intended to be thrown by hand from covered positions among masses of the enemy. For hand service they weigh three pounds, and a strong man can on level ground throw a loaded three-pounder grenade about thirty-four yards."

We have had comparatively recently an instance of their successful use. The correspondent of the *Times* with the Russian Army, describing the engagement in the Shipka Pass on 17th September 1877, writes: "The Turks scaled the rocks in dense masses hurling hand-grenades among our troops and succeeded in driving back companies out of our front trenches." After this, who shall say what important part grenades may not be destined again to play in warfare?

ROBERT HOLDEN.

NAVAL AND MILITARY NOTES AND QUERIES.

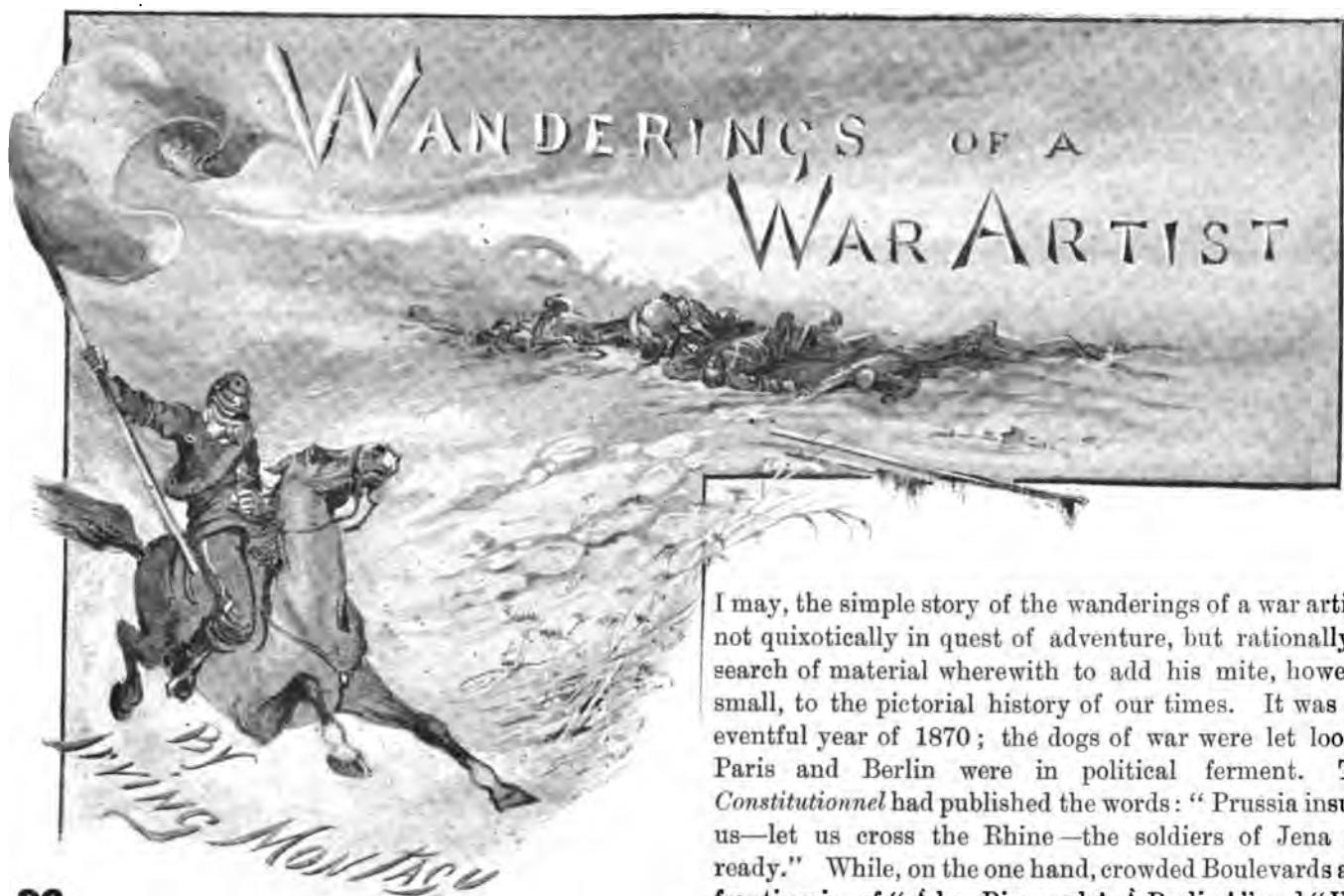
OUR NAVAL AND MILITARY ACTIONS.—It is observed by the historian Hume that actions are seldom if ever so decisive at sea as they are on land; a remark suggested by the repeated indecisive actions between the English and the Dutch in the reign of Charles II., but which affords a striking proof of the danger of generalizing from a too limited collection of facts. Had he extended his retrospect further, he would have observed that the most decisive and important of all actions recorded in history have been fought at sea; that the battle of Salamis rolled back from Greece the tide of Persian invasion; that Actium gave a master to the Roman world; and Lepanto arrested for ever the danger of Mahomedan invasion in the south of Europe; while La Hogue checked, for nearly a century, the maritime efforts of the House of Bourbon. Equally important in its consequence was the greatest of these achievements, the Battle of Trafalgar, which not only secured the independence of England and destroyed all Napoleon's hopes of maritime greatness, but annihilated for half a century the navies of France and Spain.

The losses of the Moscow campaign were partially repaired in six months; even the terrible overthrow of Leipsic was almost obliterated by the host which was marshalled round the Imperial Eagles at Waterloo; but from the shock of Trafalgar the French navy never recovered; and during the remainder of the war, notwithstanding the utmost efforts of Napoleon, no considerable fleet with the tricolour flag was ever seen at

sea. Error frequently attends hasty and partial induction, but from a sufficiently broad and extensive view of human affairs, conclusions of general and lasting certainty may be formed.

It is stated by Napoleon that a fleet of 80 ships of the line, with guns and complements of men complete, may be said as corresponding at sea to an army of 120,000 men on land. Judging by this standard, the Battle of Trafalgar, which destroyed full 25 ships of the line, and made prize of twenty, must be considered as an equivalent to a victory where 90,000 out of 120,000 were destroyed. The annals of war exhibit no instance of such a success with land forces; it is double what even the bulletins claimed for Napoleon at Austerlitz, Jena, or Friedland. Even at Waterloo, where a blow approaching to that inflicted at Trafalgar was struck, the loss of the French has never been estimated at above 40,000. The loss by which that victory was purchased on the side of the British alone, was 9,999; on that of the Allies above 20,000; whereas the total of the English at Trafalgar was only 1,690 men, a smaller number than perished in many inconsiderable actions attended with little or no result. This affords a striking instance how comparatively bloodless, when viewed in relation to the importance of the successes achieved, are victories at sea; and although the losses of the defeated party are much more severe, yet even they bear no proportion to the enormous effusion of blood in land-fights.

(Continued on p. 327.)



IT having struck me as probable that the wanderings of a war artist extending over many years and in many climes, if condensed into a series of articles, might be palatable to the public, to whom, to continue the simile, a sort of *sauce piquante* in the shape of illustrations might be added, I have set about collecting from old memoranda and long forgotten diaries material for the papers which will periodically appear in this magazine. Since their tone will naturally be auto-biographical, I am anxious to avoid that unnecessary use of the first-person-singular which too often enshrouds individual experiences in egotism and deprives "a plain unvarnished tale" of much of its crispness, preferring rather to describe those passing events, which it has been my province to chronicle through four campaigns, in homely phrase; and although the spirit of personal adventure will necessarily play its part, I wish to pose only as a becomingly modest representative of the Press, to avoid those comments on the situation, and military technicalities which have been so well and exhaustively treated by the War-correspondent pure and simple, and devote myself to a series of anecdotal sketches in pen and pencil taken on the war path during a roving career, only touching so lightly on matters historical as to link together the chain of events which I venture to describe. Having, therefore, thus placed myself in accord with my readers, what remains to be done save to plunge *in medias res*, and tell them, as best

I may, the simple story of the wanderings of a war artist? not quixotically in quest of adventure, but rationally in search of material wherewith to add his mite, however small, to the pictorial history of our times. It was the eventful year of 1870; the dogs of war were let loose; Paris and Berlin were in political ferment. The *Constitutionnel* had published the words: "Prussia insults us—let us cross the Rhine—the soldiers of Jena are ready." While, on the one hand, crowded Boulevards and frantic cries of "À bas Bismarck! À Berlin!" and "Vive la Guerre!" everywhere resounded throughout the highways and byways of the City of Pleasure. The enthusiasm in Berlin knew no bounds: 100,000 people assembled at the Brandenburg Gate singing the national anthem and shouting lustily; "Unter den Linden" was brilliantly illuminated; and the old King repeatedly acknowledged the many expressions of his people's devotion by which on all hands he was met.

The French at that time acknowledged to be amongst the finest and, it was supposed, most fit soldiers in Europe were declared by the Minister of War, Marshal Lebœuf, to be ready for anything. Seven army corps, under generals of European fame, were already concentrating on the frontier to meet the invaders. McMahon, Ladmirault, Frossard, De Failly, Felix Douay, Bazaine, Canrobert, and Bourbaki were at the front with their army corps. True it was that the Prussians in actual numbers put their neighbours into the shade; but, nevertheless, from 300,000 to 400,000 men were now supposed to stand in battle array under the Imperial Standard, and confidence in the troops who had taken the field was established in the Capital. The Emperor's plan of action, not generally known, was, as far as I could gather, as follows:—In the first place, the concentration of large army corps at Metz, Strasburg, and Châlons, and then, taking the initiative, to march some 250,000 across the Rhine, so that the southern States would be forced to fall back, while he engaged the Prussians proper.

The good old copy-slip maxim, about "procrastination," applied pointedly in this case. Carried out with promptitude this plan might have met with slight check, and the fortunes of war have been other than they were. Three weeks elapsed, however, and nothing definite was done, no positive step on a large scale taken in this strategic direction, or indeed in any other. The Prussians were thus gaining valuable time and making good use of it; from the most remote corners of the

It was found, too, impossible to leave Algeria ungarisoned, or Paris and the other great centres of France completely without troops. These may have been amongst the reasons for the inaction which was so soon to prove fatal to the French arms. It was not till the 2nd of August that the Emperor and his little son arrived at Forbach, proceeding thence in all possible haste in the direction of Saarbrück, a German frontier town occupied by an advance guard of Prussians. General Bataille it



"I was INTERROGATED BY TWO OFFICERS."

kingdom, Teuton warriors were mustering on the frontier of the Fatherland. Then, too, came the news that paper soldiers padded the effective returns of the French, and that numerically the actual complement of fighting men was considerably less than was at first estimated; in place of 150,000 men at Metz, they mustered only 100,000; at Strasburg they had to put up with 40,000 instead of 100,000; and so on to the end of the chapter.

was who on the heights of Spicheran, to the right of Saarbrück, commenced actual hostilities; these positions he carried with ease.

This little overture to future events, at which the Emperor personally assisted, and where the young Prince received that "Baptism of Fire" which has since become historical, occupied only three hours from first to last. Strategically it has always appeared to me

to have meant nothing—no point was gained in a military sense, except the Kudos of having drawn the enemies' fire, and occupied nominally the first position in the great contest. The moral effect on the French people and army, however, promised well; and had not some of their own newspaper correspondents, venturing into Saarbrück that same afternoon, been actually taken by the Prussians who were again in possession, the story of victory might have been better told. So much by way of digression to show the condition of affairs on the frontier when, young and enthusiastic, after enjoying the *dolce far niente* of a long vacation ramble in Switzerland, I was making my way to Basle, all agog to be playing some small part, literary or artistic, in connection with those stirring events at which Europe was looking on in silent wonder.

On arriving I found this pleasant little town to be up in arms: bugles were sounding; orderlies were galloping hither and thither; regiments were marching and countermarching; all the pomp and circumstance of actual war everywhere going on; and I in the midst of it, with eyes and ears alike on the alert. The late Lord Beaconsfield once said that success in life might be summed up in the one word "Opportunity," availing oneself of that particular moment when the tide turns, be it for peace or war, which leads to fortune. And now surely my turn had come. The little army of observation with which I was, occupied the frontier only to preserve the neutrality of the soil; but the clatter and bustle were as real and the patriotism of those Alpine legions as great as if they were about to fight for their own independence. The opportunity for incident too was immense. I wandered out of the town in the quiet twilight, sketch-book in hand, and soon found my first subject, "Guarding the Frontier," one which would make a telling page for the *Illustrated London News* or *Graphic*. I took up my position and commenced. At first one or two soldiers only—off duty—looked listlessly on; presently, however, I was approached by a hirsute sergeant, who, in a patois I could not understand, was evidently questioning my right to sketch, and required me to desist; but since—smiling amiably—I still went on with my work, he shortly reappeared with a file of men, and ordered me to be arrested and taken to the guard-room, to which I was accordingly removed, and outside which a large crowd had assembled, to catch a glimpse of a *real* prisoner-of-war, probably the first taken for some considerable time by the Swiss Republic. The situation was delightfully sensational though not altogether pleasant. I was interrogated by two officers who, with the utmost gravity, informed me that though I might be a roving artist, on the other hand I might not, and that I must consider myself a prisoner till further notice. With this, one of them, a colonel, gave certain instructions

in an undertone to the sergeant, whereupon I was marched off through the suburbs of Basle followed by an excited throng of tag-rag and bobtail, till I found myself opposite a quaint hostelrie, "Les Trois Rois" into which I was marched by my military guardians who, to my astonishment, made their way with me to a long empty *salle à manger*, where the table was laid for at least twenty guests and where in their silent custody I remained for perhaps three-quarters of an hour, wondering what was going to happen next, and pondering on the strange reasons which had led to this choice of place for my detention; for now it began to dawn upon me that this must be the officers' mess-room, as one after another came in, took off shako, belt and sword, and sat down, each eyeing me with a curious wonderment, which was not relieved much by the curt replies of the sergeant "he was under orders, and that was all he knew"; and really I began to feel very like "the Giant" or "Fat woman" at a country fair, so painfully was I scrutinized by the in-comers. Presently, however, the officers who had given instructions for my removal, one of whom was President of the Mess, entered; he smiled amiably as he came up to the little group which myself and guards formed, and addressing his assembled comrades, said, "Gentlemen, allow me to introduce you to our first prisoner, the contents of whose sketch-book are sufficient evidence of his innocence. I intend to make him my guest to-night; after which he will be free of the lines." Thus ended my first experience of war, brought to an amusing termination by that genial President, and the next day I spent on the frontier with an official permit to sketch where I pleased. Towards evening, however, I began to sniff the distant din of battle, and to remain thus at the rear, while stirring events were in progress further afield, would have been to me impossible. I must be in the thick of it; and so, indeed, I was, in one sense, sooner than I expected.

It was a hot autumn evening, when, after presenting my permit wherever my progress was questioned, I made for the railway station, taking a ticket in the first place for Mulheim to ascertain the state of affairs at Kiel, where I hoped to join the Prussian forces, then concentrating on Strasburg. With the exception of a few market-women, I was almost the only person in that train; all sorts of surmises were evidently already afloat as to my reason for travelling in that direction. It was about 7 o'clock when I arrived at my temporary destination, at 7.30 there was yet another train for Kiel. "Was that the last?" I inquired. It was. "I'd take a ticket for that place." "Return?" "No; single?" "Odd—very odd," thought the station-master, as he handed me my little bit of paste-board and retired sulkily into the booking-office with a very suspicious look on his sour visage. Three minutes had scarcely

passed, when, to my astonishment, he returned, accompanied this time by one whose military costume, Herculean stature, and cadaverous countenance were far from reassuring. Advancing with two or three gigantic strides he demanded my passport. I had none. My card and address then? I could give him my name and address, but I had no cards with me.

"So you have been in Switzerland? Prove it."

"Certainly; I had a circular ticket from Paris to Switzerland, and back to Paris."

"Indeed; just so. Having come as far as Switzerland, you, for some reason best known to yourself, appear in Germany; and that you return to Paris is self-evident."

This, of course, made my case considerably worse.

"But, my good Sir, you see I am an Englishman."

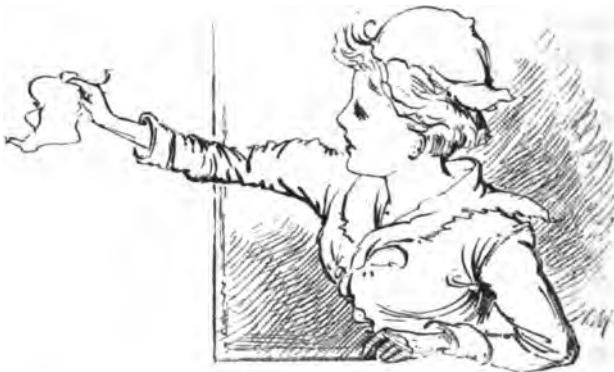
"Exactly so; do you suppose the French would employ only their own countrymen as spies?"

And so there was I, thoroughly plucked, my examiner looking at least three shades more cadaverous than he had at first. Now it happened that in my pocket I had a loaded six-chamber revolver, with which I had been amusing myself in the Swiss mountains; this fact did not add to my comfort of mind. However, very fortunately, I succeeded in unloading it unobserved; for it struck me that if I were searched, it would be better it should be found in this condition than fully primed. About this time, up came the long-expected train for Kiel: seizing the opportunity, I made a rush for it, but my captor was too quick for me; I was seized, and in less than no time dragged back on to the platform. At this point my feelings got the better of me, I let fly at my antagonist, and did not leave him till I was quite sure he was substantially *impressed* with an Englishman's fistic powers; but in justice to him, I must admit that, once in his grip, he soon laid me low, for he was an accomplished wrestler.

Ye gentlemen of England,
Who live at home at ease,
Ye little know the sturdy grip
Of creatures such as these.

There was no help for it; there was I sprawling, at the mercy of a powerful Badener, armed *cap-a-pie*, and smarting for the fray, while I, even at this early stage, was rather smarting from it. Round me stood a little crowd of idlers, all cursing me with a vigour worthy of a better cause. All, do I say? no, not all; one, a peasant girl—a very prepossessing one too, I can assure you—looked on me from one of the carriage windows with eyes that spoke compassion, and, as the train in which she was left the station, waved me long adieux with her handkerchief till it was almost out of sight. It was, I must own (though I would not have done so for worlds at the time) to no small degree soothing to find, at such a moment, that there was yet one—and a fair one too—who thought no evil of me. I had a sudden yearning

towards this same sympathetic young creature—and perchance should have it to this moment—if I had not suddenly discovered that Karl, my captor, was evidently the coming man, and that her fond farewells were not intended for me at all. I should here explain that my Kiel ticket had been taken from me and the money returned. The next train—and the last for anywhere that night—was for Freiburg; this I also tried hard to get into, thinking that if I succeeded in getting to some larger place I might be better able to explain matters, as, not understanding a word of German, my conversation with the military had first of all to be translated by the station-master, who, happily, understood a little French; but no, that burly trooper was again one too many for me, and so, I was just leaving the station under an escort of local militia for the common cell at Mulheim, when the officer of his company appeared on the scene; a fine handsome fellow, one mass of blue and gold, who, after asking me a number of questions, looked over my sketch-book with as much gravity as if a ground-plan of the fortifications of Ehrenbreitstein were thereon delineated, commuted my sentence to a



"WAVED ME LONG ADIEUX."

residence, for an unlimited period, in an old inn (now turned into a Guard-house) near the railway station, at which place he assured me, with a sarcastic twitch of his light moustachios, "I should be quite as safe as anywhere else on the frontier"; and so I had to take up my knapsack, bow politely to Mons. le Capitaine—who certainly was a polished gentleman—and retire gracefully to the "Kittler Inn." Gracefully, did I say? no, scarcely so, as, following in my footsteps were a howling mob, who, in a boisterous ecstasy, hurled mud, stones and execrations on my unoffending head. Now, "The Kittler" was a quaint, picturesque old place, but dirty to a degree; it was, like all such places at this time, infested by the military; there was a stale, guard-room air about its deserted salon, the very appearance of which gave me incipient shivers. "The capture," as it was called, was known long before my arrival, and caused no little excitement; and I am sure if I had been the very embodiment of some prevailing epidemic, I

could not have been more shunned by the unshaven hangers-on there assembled. The Station-master, who had followed up in the rear (as informer), positively refused to speak to me at all, and strange surmises as to the extent of my guilt and my probably villainous intentions went from lip to lip ; so, feeling somewhat under a cloud and my spirits considerably depressed, I inquired if by paying (of course an exorbitant price), I might have some brandy and water and a cigar, and was not sorry when they conducted me to a seat on a terrace at the back of the inn, which, though the very perfection of gloominess, was pleasant compared to the hang-dog looks I had just been subjected to. A tallow candle enabled me to light my cigar, and to see three feet around, where I sat with my worldly wealth, my knapsack and sketch-book, on a worm-eaten green table in front of me, growing momentarily more and more disgusted with my peculiar predicament. Brandy, however, at the worst of times is potent, if you take enough of it, and though much diluted as this had already been, it soothed the inner man immensely.

" So you're a spy, are you ? "

It was a female voice which came from a dark corner of the terrace on which I was sitting, watching in no pleasant mood the moon rise on my captivity. The cutting interrogative, spoken in English, was however an agreeable surprise ; the speaker, I discovered, was a fair American, who with her husband, her brother, and half-a-dozen children, had since the declaration of war been detained here for want of sufficient money ; and still, a seeming paradox, they had plenty, but unfortunately it was all paper, and perfectly useless on the war-path. My American friends were really most kind, rendering me great assistance in the manufacture of a small Union Jack, which, acting under their instructions, I fastened to a piece of flaring red ribbon and tied round my wide-awake. They started the Stars and Stripes, they told me, during the American War, wearing which they crossed the lines in safety, and they were then busy making a fresh supply.

" A national flag is known where individual nationality may be a matter of question, and the Union Jack may not be insulted with impunity."

" You see," said one of them, " you may be a chimney sweep, but you *might* be a prime minister, and so they'll think twice before they molest you."

" But you don't mean to say that I am *really* a prisoner in the proper sense of the word ? in fact, I think of making a start, even if it be in the small hours, that I may at least get to some more civilized place."

" That's impossible, my dear sir," said the lady's brother. " There are two of the ugliest devils in the whole Baden army told off for your special attention."

I smiled incredulously, when with his strong American twang he replied—

" Wall ! if yer think I'm hoaxing yer, turn round and tell me if yer think those parties behind yer are altogether prepossessing."

And there, sure enough, just behind me were two of the most cadaverous-looking Badeners I ever set eyes on ; they were good men and true, no doubt, affectionate fathers, good husbands and patriots, for all I knew, but I certainly felt I could do better with their room than their company at that moment.

Shortly after this I rose from my seat. To take a stroll and look about the place was my intention ; but I very soon found that my promenade was limited to the terrace on which I stood, and my kind Americans pictured in glowing colours the danger of venturing beyond it—which advice I began to see, under present circumstances, the wisdom of taking. About half-past 11 I was taken under military escort to my bed-room ; and when I had closed the door, going out on to the balcony, I looked into the gloomy night. I saw there were farm buildings attached to the hotel, and should have continued my scrutiny on the position, but, hearing the heavy tramp of my guards under the windows, I thought better of it, stepped noiselessly back, and abandoned for that night the idea of freedom ; to have attempted it would have meant at best a very narrow escape, always supposing the darkness had enabled me to effect my purpose ; so I packed my knapsack, that at any moment I might be ready to take advantage of an opportunity, and retired to rest. Before six in the next morning I was up and on the look out, determined to make a desperate effort to get away, half realising under the force of the situation the possibility, if not very great probability, of my sentries, acting under the usual orders for treatment of spies, and bringing down their bird as he rose to the first hedge ; presently, however, I saw a chance, and with the greatest caution, I managed to get down-stairs and out into the farm buildings unobserved, where, hidden, I awaited in breathless expectation my opportunity for escape. Fortunately for me, the place was all astir.

A motley crowd of excited peasants had assembled round about the " Kittler," all anxious for the latest war news, which enabled me to evade the vigilance of my guards, whose heavy tread still resounded on the flagstones outside my window (where they supposed me to be snugly tucked up in bed), while I was really stealthily making the best of my way to the railway station, about six hundred yards distant. On arriving I managed, with others already hastening to neutral ground, to get a ticket from a small office-boy ; the station-master, fortunately for me, not having yet arrived. This important matter accomplished, I quietly walked into some fields just outside under the protecting cover of some haystacks, and there waited till the train

came steaming up, when I succeeded so far as to get into a remote corner of a third-class carriage unobserved. My anxiety for the train to depart was now beyond description; for during this time, every two minutes, my captor of the night before passed to and fro in front of the carriage in which I was, and the next instant the station-master himself—the very Informer through whom I was taken—made his appearance at the door to examine the tickets. Imagine my horror! Fortunately, however, I had heard him at a neighbouring carriage, so I passed mine down, hiding my diminished head behind an old newspaper which I managed to get out of my pocket before he could recognize me. After what appeared to me to be an eternity, the train moved on; but only for a few hundred yards, then, to my consternation, it put back. Had they discovered my escape? No! It only

authorities, to be as likely to screen the purposes of a spy as to serve those of an artist.

The permit for the Swiss lines, which my genial friend, the Colonel, gave me, it will be remembered, on the occasion of my temporary detention at Basle, now stood me in good stead, and I spent another day in all the pomp, circumstance, and excitement of war without any of its inconveniences. It was not, however, in my "Plan of Campaign" to spend more time on the frontier than I could help, so I started the following morning, utilising the return half of my circular ticket for Paris, *via* Pontarlier and Dijon, at which latter curious moss-grown historical old town I arrived towards evening. It was in the wildest state of excitement. Never in the memory of the oldest inhabitant had the nerves of those homely Burgundians been in



"FOLLOWING IN MY FOOTSTEPS WERE A HOWLING MOB."

shunted and went in for all those eccentricities peculiar to trains when you want them to start. Suffice it to say, I at last found myself at Basle, where my appearance—still flying the British colours—excited no small amount of curiosity. Indeed, I heard one of a small group of idlers informing the rest that I was the English Ambassador from the Court of Berlin. I had only been a week on the war-path, and had twice been made prisoner; my experiences having, at least, taught me that credentials were necessary to those who would become soldiers of fortune at the front; and that knapsacks, sketch-books, collapsible stools and slouched hats appeared, in the eyes of the military

so terrible a state of tension as now, that, occupied from its Grande Rue to the extreme limits of its utmost suburb, it bristled with bayonets, as regiment after regiment poured in from all directions to secure quarters. To me the novelty of the situation was delightful; for, though yet in my earliest infancy as a War-artist, I had had nevertheless just sufficient seasoning in my capture and escape from Mulheim to make me feel the reality of the undertaking, and to glory in the fact that I was one with the rest. Now, owing to the military occupation of which I have just spoken, every available corner had been bespoken long before my arrival, and I thought myself fortunate,

after many disappointments, to find at an old inn just outside the town, an attic which, being occupied by a Tambour-major and a Corporal, I was permitted to share. It was yet light when I arrived, and so while such frugal food as the modest hostelry afforded was being prepared, I strolled into the inn yard, where two disused diligences disputed with cocks, hens, and pigs the right of occupation. It was not these, however, which attracted my attention, as it was only a type of many another picturesque old entry in provincial France. No ; it was a decrepid octogenarian, seated in a remote corner of the inn yard, grinning his hardest, polishing up the while the lock of a quaint old musket, mumbling as he did so between his toothless gums, in a marked provincial patois—

"I shall find him yet. I shall find him yet. My aim's as good as ever."

Then he would level his gun as if to fire, and again would burnish the heavy flint lock till it glittered in the evening light, and then he would laugh a wild diabolic laugh, and again mutter the old refrain, "I shall find him yet. My aim's as good as ever."

"Mad, sir ; quite mad," said mine host, who had by this time come to inform me that dinner was ready. "That's poor old François, that is ; and I've heard say that no handsomer fellow or braver soldier ever carried a knapsack, or won promotion quicker during the first Empire than that miserable, toothless, old maniac you see before you. He has been fifteen years here alone, and prior to that was for many years in the Côtes du Nord. The romantic story of his early life is so well known that he seems somehow to have always commanded a certain sympathy, and there have never been found wanting those who were willing to give him a shelter night or day. He never parts with that old musket, which he is always furbishing up, as you see him now, muttering vengeance the while on the head of one who, in all human probability, has been fifty years dead. But, come, sir ; the soup will be cold. Shall I join you over a bottle of Burgundy at dessert, and tell you the story of old François's blighted hopes ?" "Of course, with pleasure."

And thus it was that, dinner over, my garrulous host came in and, after his second glass, delivered himself somewhat as follows.

"Well, you must know that this same François concerning whom you seem to take some interest, was once as comely a youth as you could find in the whole department in which he lived—aye ! and as honest and true-hearted a lad too as ever donned a cavalry uniform. It was in the days of the first Empire that the catastrophe took place which led to his imbecility.

"Lisette Dupont, the only daughter of old Dupont, the silversmith at Amiens was, at the time I allude to,

one of the most charming grisettes in the establishment of Madame St. Valerie, who had then the largest collection of *modes Parisienne* and pretty milliners to be found in the department. Now Lisette and François had known each other since childhood, and, as years ripened their affections, they discovered that a good deal more than friendship existed between them, and so old Dupont and François the elder, seeing how things stood, talked the matter over, and finally all was settled in favour of the young couple, who awaited in a state of nervous anxiety the verdict of the elders in an adjoining room ; and now, when they went out together for a stroll in the long summer evenings, it was no longer anyone's business to turn and stare curiously at Lisette, or raise a single 'who'd have thought it' about François. It was an understood thing ; in fact, the day for their marriage was actually fixed, when one fine morning the poor fellow woke up to find himself a soldier. Yes, the conscription list was out, and he was down. He broke the news gently to Lisette, telling her he should at least, after his first campaign, have a commission, when he promised to come back and claim her as his own. Poor Lisette ! the dark cloud which had thus suddenly obscured the light from her young life had, she still fondly hoped, though in the obscure future, a silver lining. Shortly afterwards, François, brave and confident, left Amiens, for it was there the affair happened, Monsieur. Full of hope and ambition, he entered on the duties of a soldier. Time went by, and no one was more beloved for his social good qualities, or admired for his valour. Ever foremost in the fight, his reputation reached the Great Commander ; and after some years' campaigning, the dream of his life was realised, promotion following promotion, and decoration after decoration, till he received the commission he had promised Lisette he would win ; about which time he, it was feared, was maimed for life by a sabre cut, hence his discharge followed, and he returned in all haste to claim his bride.

* * * * *

"Now when the account of the harassing retreat from Moscow came, all France naturally mourned her brave sons, who fell by thousands before that biting northern frost, not even a soldier's death accorded those who daily sank starving and frost-bitten by the way. News travelled slowly in those days, and the sight of a uniform would bring crowds into the streets, with anxious faces, to ask if anything had been heard of Jacques, Antoine, or Pierre, as the case might be, and it was one of these 'ghosts from the battle-field' who told how one, François Dumolin—yes, he was sure that was the name, a splendid young fellow, who, having already gained considerable distinction had deserved well of his country, had at last succumbed to the intensity of cold and hunger and dropped dead on

the march. This horrible news was not long in reaching Lisette; the effect it took upon her was terribly touching; she was apparently as calm and gentle as it was her wont to be; she bore the blow absolutely without a murmur. Silently she returned to her little room, secured the doors and windows, stopped up every available aperture, lit a small charcoal fire, asked her poor father's forgiveness on a slip of paper (afterwards found by her side), and laid down on her bed to sleep, perchance to dream of François, lying wrapt in his last long rest beneath the northern star, frozen to death on Russian soil. Be this as it may, the fumes soon did their work. Lisette slept that night to wake no more. The door was eventually broken open; but, alas, too late! Three weeks after this François returned, covered with honours, and full of brilliant hopes for the future. Who shall describe his agony when he heard what had happened—



"I SHALL FIND HIM YET—MY AIM'S AS GOOD AS EVER."

when told that Lisette's life had been sacrificed to a false report. Already weakened by exposure and privations of all kinds, fever set in, from which recovery left him a harmless maniac, the unhappy victim of a mistaken tale-bearer; and with some strange idea of retribution ever present in his mind—always to be found polishing an old musket; and if spoken to, his one answer was, 'I'm waiting for him still.' Poor old François, he has a place at every table, a bed in every home."

Thus ended the story of François Dumolin, and with it our bottle of Burgundy. No further incident of noteworthy importance happened that night, unless I mention that it was a sleepless one to me owing to the

Tambour-major, whose snoring, both loud and shrill, shook the rafters of our sky-parlour till long after day-break. How strange it is to hark back through the years of excitement which followed my *début* as a war-artist, and trace the rise and progress of the spy mania, which during the Franco-Prussian war appeared first to proclaim itself at Strasburg, Metz, Dijon, Sedan. Everywhere was that gaunt, stalking horse "Espion" to the fore, and perhaps no one was so open to suspicion as the War-artist or Correspondent, who, sketch or note-book in hand, was at once relegated to the position of a spy. I remember how several *confrères* at Metz were most roughly handled by officious soldiery, and an excited rabble, and the commanding officer before whom they were brought, who assured them that if they appeared before him again they would most certainly be shot. Nor did the French themselves escape. One of many instances may be quoted, that of a representative of the *Monde Illustré*, whose pathetic concern for a favourite little dog he possessed was ludicrous. This votary of Apelles was very roughly handled. His sketch-book condemned him to endless misadventures, all of which he bore with the most praiseworthy fortitude, till the rabble went to the greater length of *arresting, detaining, and, I think, appropriating*, his pet poodle. Equal to all save this, he rent the air with, "*Oh, mon petit chien—mon petit chien!*" "*Down with him—down with him!*" shouted the mob at the top of their voices. "*Let us lynch him in the market place; he's a spy, a traitor!*" and so on. But his little dog was his one concern, and his cries of "*Oh, mon chien!*" drowned their wildest ravings. I myself was witness that the Germans were not one jot less suspicious than the French; indeed, I think there were few Correspondents, no matter of what nationality, who were not for some considerable time at least under the ban of both armies. Saarbrück, like a prelude on the flute to an overture in which the big drum has it all its own way, was soon forgotten in the French defeat at Weissenberg, where General Douay endeavoured to defend the range of the Vosges against the invader. It was the present Emperor—the Crown Prince—who with 120,000 gave him battle. He appeared unexpectedly on the heights of Schweigen—dropped in to breakfast, as it were, for the army of Douay were unsuspectingly engaged at their matutinal meal when the enemy's shell-fire cut short their repast. The French, surprised as they were, fought with their old ardour, the Turcos especially holding their own with the tenacity of lions; but the stolid German was soon master of the situation.

About mid-day General Douay was himself killed by a Prussian shell, when, leaving Weissenberg partially in flames, the remnant of his army retreated in the best order they could, preceded by hundreds of

scared peasantry, who made in hot haste for the mountains and more remote villages, thus ending the first serious engagement of the war.

"Ah, monsieur!" said a half-frantic patriot to me when the news of this crushing disaster to French arms was spreading throughout the length and breadth of France, "Weissenburg is only the shadow of coming events, it's the forecast of the end. Our men are brave to a fault, but they are over-matched, and out-weighted by the enemy. I tell you I know of instances innumerable in which to keep up appearances the effective of a regiment has been counted at its original muster of say ten companies a hundred strong, while hardly one company musters really more than thirty men all told. A paper army, Monsieur, counted by the boots in our stores rather than the men in our barracks; this,

I say, is the key-note to disaster." Then in his excitement he shook his fist in my face, and declared that nevertheless France, *la belle France*, would yet have her turn; and, with that inconsistency peculiarly French, taking the defeat of Weissenburg as his text, assured me, with the earnest exhortation of a true prophet, that in less than three months the French Army would be encamping in Unter den Linden. There was, nevertheless, much method in his madness, much truth in his assertion, that the numerical strength of France was in that great contest far over-estimated. But I must not forget editorial limits. Let me, therefore, rein in my martial Pegasus till next month; and if we have travelled so far in accord together, I will then ask you again to join me in quest of fresh experiences.

(To be continued.)

NAVAL AND MILITARY NOTES AND QUERIES.

OUR NAVAL AND MILITARY ACTIONS.

(Continued from p. 318.)

LORD COLLINGWOOD estimates the killed and wounded at Trafalgar, when the French navy was in a manner annihilated, "at several thousands"; while the Moscow campaign, where four hundred thousand men perished, was found insufficient to beat down the military power of Napoleon. The battle of Trafalgar affords a decisive proof that it is to no particular manœuvres, ill understood by others, of breaking the line, that the extraordinary successes of the English at sea are owing, but that the superior prowess and naval skill of their sailors is alone the cause of their triumphs. In truth, the operation of breaking the line, whether at sea or land, is an extremely critical and hazardous one, and never will be attempted, or if attempted, succeeded in but by the party conscious of, and possessing greater courage and resources in danger than its opponent. From its superior sailing, and the lightness of the wind, the *Royal Sovereign* was in action at Trafalgar when the rear of the column was still six miles distant, and a full quarter of an hour before another British ship fired a shot; and the whole weight of the conflict for the same reason fell upon the twelve or fourteen British ships which first got into action, by whom six-sevenths of the loss was sustained. So far from the French and Spanish fleets being doubled up and assailed by a superior force, the British fleet itself was doubled up; and the victory was, in fact, gained by half of its force, before the remainder got into action. The arrival of this remainder, indeed, gave those first engaged a decisive advantage, and enabled the ships which had hitherto borne up against such desperate odds to overwhelm in their turn their dispirited and now out-numbered

opponents; but had they not been from the first superior, and greatly superior to their antagonists, they must have been taken prisoners in the outset of the fray, and lain useless logs alongside of their captors when the rear of the column was getting into action.

Would any but a superior enemy have ventured to plunge like Nelson and Collingwood into the centre of their opponent's fleet, and unsupported single out the hostile admiral for attack when surrounded by his own vessels? What would have been the fate of *Alava* and *Villeneuve*, of the *Santa Anna* and the *Bucentaur*, if they had then engaged Nelson and Collingwood, the *Victory* and *Royal Sovereign*, at the muzzle of their guns, in the middle of the English fleet, when three or four hostile ships were pouring in their shot on all sides? Would they not have been compelled to strike their colours in ten minutes, before the hardly succeeding vessels could come up to their support? In breaking the line, in short, whether at sea or land, the head of the column must necessarily be engaged with a vastly superior force, before the rear and centre can get to its support; and if, from accidental causes, their arrival, as at Trafalgar, is long delayed, it may happen that this contest against desperate odds may continue a very long time—quite long enough to prove fatal to an ordinary assailant.

The conclusion to be drawn from this is, not that Nelson, Duncan, and Rodney did wrong, and ran unnecessary hazard by breaking the line at Trafalgar, Camperdown, and Martinique: quite the reverse, they did perfectly right; but that it is the manœuvre suited only to the braver and more skilful party, and never can prove successful but in the hands of the Power, possessing the superiority in courage and prowess, if not in number.

R. O'BYRNE.
ss 2

S U V O R O F F.

By LIEUT.-COLONEL SPALDING, LATE ROYAL MUNSTER FUSILIERS.

CHAPTER I.

CHILDHOOD AND YOUTH.



LEXANDER SUVOROFF was born in Moscow on the 24th November 1729, in the same year as his great benefactress the Empress Catherine. His family was of Swedish extraction. In 1622 one Suvor crossed the Baltic and, settling in northern Russia, left descendants who became faithful subjects of the Czars. Basil Suvóroff, his father, likewise a soldier, attained the grade of general and the dignity of senator. He was, it appears, well-educated for those times, having actually translated Vauban's works into Russian. He lived during Suvóroff's childhood in retirement, either at Moscow or at the family estate at Rojdestveno in its vicinity. It was the reign of Empress Anne, whose minister and favourite, the notorious Biron, gradually drove all Russians from office in favour of his German countrymen. Fortunate were they who, forgotten in the obscurity of exile, escaped persecution. Basil Suvóroff was among the number and employed his leisure on the education of his son. On the accession of Elizabeth, however, he was restored to active employment, and occupied important posts during the Seven Years' War. Young Sasha (or Sandy) being a sickly child and of small stature, was destined for a civil career. In those days it was customary to enrol children of noble parents in regiments as privates—generally in the Guards—and frequently at their very birth; thus when they were old enough to join they had become officers. This was not done in Sasha's case for the above reason; so he had to join as private and work through all the military grades. This placed him at a disadvantage, in one respect, but the completeness of his professional knowledge was due to the circumstance.

Notwithstanding physical frailty, Sasha burned with martial ardour. Bodily defects he tried to remedy by continual exercise and exposure to hardship. The tedious leisure hours of country life were devoted to military history and the memoirs of great commanders. Plutarch, Quintus Curtius, Cornelius Nepos, and Cæsar were his favourite authors. His model hero, however, was Charles XII., to whose character his own bore some resemblance; though the prudence which tempered his valour might seem fore-shadowed by his partiality for the campaigns of Montecuccoli. Nor was his attention monopolized by military subjects, for he is said to have

perused the philosophical writings of the day. He was a good linguist, or he could not, in that age, have been an extensive reader; for the day of Russian literature had not yet dawned. He read French, German, Polish, and Italian in youth, acquired other tongues subsequently, and—still more remarkable accomplishment in those days—he spoke and wrote his native Russian with elegance and propriety. But the father grew discontented with his studious son, being of opinion that he spent too much time in his chamber poring over books and maps, for he rarely appeared in the family circle.

Sasha was now twelve years old and the question had to be decided: Was he to be a soldier? The father adhered to his own views; but the son was obstinately bent on a military career. And thus the point was decided. An old comrade of the father's, a General "Hannibal," resided in the neighbourhood. He was a negro; had been carried off from the shores of Africa in childhood and purchased in the slave-market of Constantinople by the Russian ambassador, who sent him as a present to Peter the Great. The Czar caused him to be baptized "Hannibal," educated in France, and placed in the Russian army, in which he attained the rank of general, dying at the ripe old age of ninety-two. One day this dusky warrior, calling on the elder Suvóroff, heard him complain about Sasha's unsociable behaviour. "Where is he?" asked Hannibal, "I will go speak to him." "Up in his bedroom as usual," replied the father. Hannibal soon discovered the culprit amid maps, classical authors, histories, and biographies; but was so charmed with the evidence of precocious talent which was thus afforded, that he interceded with Suvóroff, and finally persuaded him to allow Sasha to pursue the career of his choice.*

In 1741 then, at twelve years of age, young Sasha was enrolled in the Simeónovsky regiment of Guards, and during the five ensuing years was instructed in the military profession under his father's roof and supervision. At the expiration of this term, that is, at the age of seventeen, he joined his regiment as a private and, we are informed, performed the duties of that humble rank in an exemplary manner. Such was his zeal that he cleaned his arms and accoutrements with his own hands, instead of employing a batman, as custom permitted.

* Hannibal was a maternal ancestor of Pushkin's. The poet's features bear witness to his Moorish descent.

True, he did not reside in barracks, but outside—that he might prosecute his studies undisturbed; yet he loved their precincts and mixed freely with the soldiery among whom he speedily became a favourite. Passionately fond of drill, he would persuade his comrades to do a little privately "just to oblige him." The character of the man was foreshadowed in the conduct of the youth. He affected a laconic style in speech and correspondence; would reply to importunate interrogators, "*Ucheess*," or "Find out"; and here is a specimen of his correspondence with his father: "Hail, I am serving and studying. Alexander Suvóroff." His comrades looked upon him as a *chudák*, or "oddity"; and not unnaturally. For, when taunted with unsociability, he used to retort that he could not abandon old friends for new. His old friends were Quintus Curtius, Plutarch, Cæsar, and the

that it was against orders to accept money when on duty. Whereupon she, "patting him on the check," exclaimed: "Ah, my fine fellow, you know your duty," placed the coin on the ground and told him to pick it up when relieved. In this he did not fail, nor to preserve it with veneration to the end of his days. About this time he essayed composition, made verses, and contributed to the only periodical his country then boasted. His article was entitled "Conversations in the Realms of the Dead," and being signed with the initial S., was attributed to Sumarókoff, then considered a literary master and it was in consequence extravagantly lauded. Alexander the Great is represented as exhorting Herodotus to observe the difference between true glory and an insane desire for notoriety. Montezuma inculcates on



HANNIBAL AND SUVOROFF.



SUVOŘOFF ON SENTRY, AND THE EMPRESS ELIZABETH.

rest. Persistent in study, he not only learnt the army regulations by heart, and hammered away at drill, but obtained moral influence over his fellows—mainspring of his power in after years. These early peculiarities deserve notice as, bearing on the question: To what extent were they adopted for a purpose, and how far the result of individual temperament?

A piece of luck soon befell this "oddity." When on sentry at Monplaisir, a kind of summer pavilion by the seashore at Peterhof, he attracted the notice of the Empress Elizabeth. Promenading in the gardens, she passed his post, when the young soldier saluted so smartly that the imperial lady, "in spite of his low stature," was struck by his appearance and inquired his name; on learning which she exhorted him to become as good a soldier as his father before him, and presented him with a silver rouble. But the young sentry replied

Herman Cortes that "mercy is indispensable to the character of a hero."

Not till 1754 was Suvóroff, being then twenty-five years of age, promoted lieutenant in a marching regiment. His advancement was thus slow at first in comparison with luckier contemporaries. Yet fortune not unfrequently redresses her wrongs with extreme rapidity and in 1757, three years after his first commission, we find him a lieutenant-colonel. It was the second of the Seven Years' War, and he was appointed commandant of Memel, an important post on the Russian line of communications. His uncommon educational attainments procured him the post, but, his duties being chiefly connected with supply, his impatience whilst the echoes of the cannon of Gross Jägerndorf and Zorndorf were resounding through Europe may be conceived. In the end his reiterated

prayer was granted, and in the summer of 1759 he joined Soltikoff's army on the eve of the Battle of Kunersdorf. He was attached to the staff of General Fermor, commanding the right wing of the Russians, and greatly distinguished himself during the action. He was even charged with that offence to which staff officers are said to be prone—excess of zeal in leading the troops, and defrauding their regimental comrades of the laurels which are their due. The assertion may well be true, for the conflict was obstinate and tumultuous, while Suvóroff's nature was pushing and impetuous. But the Russian army has always been under-officered; there is room for all, and possibly no ill blood was stirred on the occasion. His conduct won him the admiration of Fermor, which was heightened by his abrupt exclamation when the Prussians broke and fled, "To Berlin! to Berlin! there is the kernel of the nut which has broken our teeth!" But this great victory was barren of result. The following year, however, he tasted the satisfaction which was then denied him by accompanying the force which occupied the Prussian capital.

In 1761 Suvóroff's abilities became conspicuous in what are termed the minor operations of war. Near Reichenbach he defeated Frederic's advance guard under General Knobloch, and since then was almost continuously employed at the outposts. The Russian General had found his man, and Suvóroff's rank was not yet so exalted as to expose him to jealousy; but his exploits were all confined to partisan warfare, and history as a rule is oblivious of such details, which live alone in the memories of friends and biographers. They escape the chronicler's eye and are quickly lost in the great current of events. Perhaps his most brilliant deed of arms was at Landsberg, on the Wartha. When Soltikoff's successor, Buturlin, abandoned his Austrian allies before Bunzelwitz and retired across the Oder, Frederic dispatched 10,000 men under Platen, to pass round the left of the Russians, destroy their magazines on the Polish frontier and proceed to the relief of Kolberg, which was besieged by a Russian army under Rumántzoff.* Though Platen had the start by two days Buturlin, informed of his movements, hurried off a force under General Berg to protect his communications. Suvóroff was placed in command of the advance guard, and though the Prussians destroyed a reserve column of supplies, he cut them off from the great dépôt of Posen, intercepting them by forced marches, and blocking their further advance. Platen then directed his march towards Pomerania by the left bank of the Wartha, followed by the Russians on the right. Suvóroff, aware that the enemy must cross that river by the bridge of Landsberg, decided on opposing his passage

* Commonly misspelt "Romanzoff."

with a hundred Cossacks. He swam the Netze at Driesen and at dawn appeared before Landsberg, having marched thirty miles during the night. Having captured some Prussian hussars who were posted in the town, he demolished the bridge before the enemy appeared on the opposite bank. Platen had to effect the passage in boats and the delay thus occasioned enabled the Russians to overtake him. The importance of this movement becomes apparent when we consider that the Russians, marching by the right bank of the Wartha, described an arc, while their opponents traversed its chord. Near Arnswald during a tempest Suvóroff lost his way at night in a wood, having no escort but two Cossacks. Wandering at haphazard he stumbled on the pickets of a Prussian foraging party under Colonel De la Motte Courbière. Without losing his presence of mind he marked the spot, reconnoitered its approaches and turning his horse's head in the opposite direction, soon found himself in the midst of his troops, whom without a moment's loss of time he led forth in quest of the enemy. His Cossacks were routed by the Prussian hussars, but rallying them he not only put to flight the enemy's horse, but charging their infantry, broke their squares and compelled them to lay down their arms. At the conclusion of the campaign General Berg thus recorded his opinion: "Suvóroff is rapid and daring in reconnaissance, bold in action, and he never loses his presence of mind."

"Gentlemen, remember that success in war depends on three things: *a correct eye, rapidity, and dash.*" Such was the maxim which Suvóroff habitually impressed on the minds of his subordinates. Steadfastly adhering thereto through a career which was never tarnished by defeat, though in the face of greatly superior numbers, the uninterrupted success which he enjoyed begets a curiosity regarding those moral qualities which render their possessor capable of deeds beyond the reach of ordinary men. Suvóroff executed no elaborate manœuvres. Reaching the scene of action, he detected the enemy's weak point instantaneously, and directed the attack without a moment's vacillation. Such prompt decision has the air of inspiration, engenders equal confidence in others and prepares the victory. Hence the braggart spirit he displays, which as we proceed grows in intensity. He boasts he knows not the meaning of "retreat, fatigue, hunger, cold,"—himself being physically so feeble as to bend under the weight of his own sabre. But, seeing how carefully he studied the Russian soldiers and the unbounded influence he possessed over them, we may safely assume that this style of address was calculated to arouse the dormant heroism of their breasts. It was, in fact, a stratagem of war.

His activity was now brought to a temporary standstill. On the 5th of January 1762 the Empress Eliza-

beth expired, and was succeeded by Peter III., her nephew. Notorious is the partiality which this prince entertained for the Great Frederic, with the consequent court intrigues which, combined with the ill-health of the late Empress, had trammelled the action of the Russian armies during the war. Peter not only made peace but common cause with the Prussian sovereign, and his troops were actually seen ranged under the banners which shortly before had been the foe's. But the interlude was brief. In July of the same year he perished, and was succeeded by his consort, the able Catherine, who forthwith ordered her troops' return home. Russia withdrew from further participation in the war, and Suvooff was fortunate enough to be selected to carry to the

the Preobrajensky Guards, and to Suvooff and his regiment was entrusted the guard of her person. This tranquil interval was, we are assured, turned to excellent account, for rarely did Suvooff though in the field pass a day without devoting a portion of it to reading. Now and then he enlivened the monotony of existence by freaks such as the following:—On the march to Petersburg with his regiment he passed by a monastery—a building which, in Russia, closely resembles a fortress—when suddenly and as by inspiration forming columns of attack, he advanced at the double, and storming the walls, his men swarmed in, to the horror and confusion of its peaceful inmates. The superior laid his complaints at the feet of the Empress, who



SUVOFF LOST AT NIGHT.

Empress the despatches which acknowledged the receipt of her orders. He was graciously received by Catherine, who possessed that rare endowment so indispensable for a ruler of mankind, the faculty of selecting talent from the mass of mediocrity. Promoted Colonel, he received command of the Astrakhan Grenadiers, but was soon after transferred to the Soozdal Regiment then quartered at Ládoga.

Six uneventful years of peace and the dull round of regimental duty ensued, their monotony relieved only by an occasional field-day at Tsarskoe Selo. Here, on one occasion, the Empress, then in her prime, appeared at the head of 30,000 men, attired in the uniform of

merely remarked with a smile: "Never mind Suvooff. I understand him." Such proceedings, it is true, familiarized his men with the possibilities of war; but his object lay deeper. Aware that talents, however great, may languish for ever in obscurity unless brought into prominence by adventitious means, he resolved at all hazards to mark himself off from the common herd. To rivet the attention of mankind and the Empress, from whom proceeded all good things, he had neither riches, good looks, nor exalted birth. He assumed the part of a buffoon to captivate the public gaze. It was consistently played out and by force of habit became a second nature to him.

CHAPTER II.

FIRST POLISH WAR.

In the year 1768 troubles in Poland interrupted the dull monotony of Suvóroff's garrison life. Before following his career in that country a brief summary of the events which led to its First Partition seems needful.

The fall of Poland may be traced to the fact that while the various States of Europe were gradually emerging from mediæval anarchy through the consolidation of the royal power, that kingdom was undergoing a contrary process—the nobility were constantly encroaching on the rights of the Crown. Scotland and Sweden endured the miseries of feudal tyranny till late in the sixteenth century, but Poland had not freed herself from them late in the eighteenth. Commerce being carried on by the Jews, she possessed no middle class to whom the Crown might look for support against the aristocracy; and thus she became in the end a pure oligarchy in which king and people were alike powerless. In the days when she was great her monarchs enjoyed absolute authority; but the dynasty of the half-mythical Piasts became extinct A.D. 1370, in the person of Casimir the Great, who was succeeded by their representative in the female line, Lewis I., King of Hungary, a descendant of Charles of Anjou, the conqueror of Naples. The nobility seized the occasion to extort the *pacta conventa* from the Crown, the provisions of which still further reduced its prerogatives; while, to purchase the succession of his daughter to the throne, the newly-elected king added still more ample concessions. The hereditary principle was rudely shaken by these transactions, nor was the monarchy long in becoming purely elective. Lewis was, according to his wish, succeeded in this Polish throne by Hedwig, his daughter, who was wedded to Jagailo, or Jagellon, Grand Prince of Lithuania, the founder of the dynasty which in history commemorates his name. When Russia lay prostrate beneath the Tartar yoke, Lithuania, under the conqueror Gedimin, had made extensive acquisitions at the expense of her neighbour and these provinces, united to Poland personally under Jagellon, but subsequently by a legal compact (1569), became in course of time the subject of renewed contention. For Russia, waxing powerful under the steady and uniform despotism of her tsars, longed to recover the territory which had been snatched from her in the day of adversity; whilst the increasing weakness and anarchy of Poland formed a standing temptation for her to gratify these desires. Sigismund of Sweden, grandson of the famous Gustavus Vasa, followed, after the brief but glorious interlude of Stephen Bathori's reign,* the last of the Jagellons upon the throne; but, in 1668, his son John Casimir abdicated it in despair, after foretelling the ruin which

intestine commotion would bring upon his country. Each demise of the Crown was made the pretext for renewed encroachment on its authority; till, at last, the highest bidder among the neighbouring potentates secured the coveted prize by corrupting the most influential among the nobility; for its possession by a foreign ruler enabled him to intrigue for the ruin of the country. The glorious annals of the reign of John Sobieski formed a brilliant episode amid the ever-thickening gloom which gathered round the destinies of Poland, but the Saxon dynasty which followed him laid her bound hand and foot at the feet of Russia, who henceforward nominated her candidates for, and carried through their election to, the regal dignity. In 1764 Catherine II. caused her favourite Stanislas Poniatowski to be chosen king. Yet the epoch of Russian interference had but commenced. The Empress, possessing a pliant tool in her nominee king, soon discovered a plausible pretext for intervention in the question of religious freedom. The doctrines of the Reformation had found a ready and wide acceptance among the Polish nobility, though the wealth and influence of the Church remained in the hands of the priesthood of the ancient faith, a circumstance which soon led to repudiation of the tolerance which had been guaranteed to the Dissidents on the accession of Henry of Valois in 1573. The Jesuits, who infested the land, used this advantage so skilfully that, in brief space they managed to effect the exclusion of dissidents from all public employ. Crying grievances such as these Catherine resolved to turn to account. She instructed her envoy at the Court of Stanislas to demand the repeal of the obnoxious edict of exclusion but, though supported in this step by the Protestant Powers, Repnin, as Catherine from the first anticipated, met with a decided refusal from the Diet, who were instigated thereto by the clergy. Armed confederacies—the constitution sanctioned these as lawful means of expressing discontent with the executive—assembled to enforce the rights of the Dissidents. All of them—there were about two hundred—coalesced at Radom under the leadership of the notorious Prince Charles Radzivill, a Lithuanian magnate of immense wealth and a personal enemy of the King's. But Repnin having in the meantime bullied the Diet into acquiescence with his demands, a new confederacy forthwith assembled at Bar, in Podolia, which pronounced the deposition of Stanislas for conceding those very liberties on which they themselves had not long ago so loudly insisted. Unable to suppress with his own unaided forces so formidable an insurrection, the King appealed to Catherine for assistance and, as may be conceived, his request met with joyful compliance. The Confederates of Bar were declared rebels by royal proclamation, while the Empress quietly prepared to set her forces

* That of Henry of Valois can hardly be reckoned as such.

in motion. In the winter of 1768 a division was concentrated at Smolensk, then close to the frontier of Poland, and placed under the orders of General Nummers in readiness to take the field with the advent of spring. The Soozdal regiment under Suvóroff was among those which were ordered to that town, where its chief was placed in command of a brigade with the corresponding rank. Having performed the march from Ládoga to Smolensk, a distance of 500 miles in thirty days, he arrived at the rendezvous a whole month earlier than expected. Nevertheless, during the interval he found time to instruct his men in the various duties connected with actual warfare, even target practice, although he constantly exhorted them to trust to the bayonet. "The bullet is a hag, the bayonet a hero," was his favourite saying. On the march he was ever beside the column cracking jokes with the men, and diverting them by curious antics. His system would have struck the strict martinet with dismay. There were no halts

been submerged beneath it at no remote period, since fragments of boats have been found imbedded in the earth very far inland. Consequently, marshes abound; the rivers and streams are broad, sluggish, and deep; while extensive woods of fir occupy the intervals between these liquid obstacles to locomotion. The roads, to describe the country as it existed at that time, were very bad, or to speak more correctly, if we except the highways which united the principal towns, they had no existence. The wayfarer either found himself ankle-deep in sand, or engaged in the passage of a morass on a causeway of branches and trunks of trees. The villages were sparse and wretched, and consisted but of a few poor huts; while the towns might have perhaps equalled in size, but certainly not convenience, a modern village. The castles of the nobility and the monasteries were in point of fact so many fortresses in which their proprietors sought protection from the inroads of the Tartars and Cossacks who infested south-eastern



FIELD-MARSHAL SUVO ROFF PRINCE OF ITALY

made to allow the rear of the column to "close up." "The head must not wait for the tail," was a maxim which he constantly followed during the irregular warfare which engaged him for many years to come. "Stragglers," he averred, "were good riddance; the best men kept up; time was worth more than numbers." Yet he could adapt his methods to circumstances. At this period the forces he directed were numerically weak and the inconveniences of such a system were not much felt. Essen, the Saxon envoy at Warsaw, estimated the Russian troops then in Poland at 15,000, but added that they gave themselves out as double that strength to conceal their weakness. Leaving Suvóroff at Smolensk diligently employing the winter months in the instruction of his brigade, let us glance at the theatre of war in which he is about to act. Poland (the name probably derived from the Slavonic *polie*, a plain or field) consists of one vast plain which extends from the shores of the Baltic to the base of the Carpathian mountains. Lying but little below the level of the sea, it must have



THE EMPRESS CATHERINE II. OF RUSSIA.

Europe. Supplies both for man and beast, always inadequate, were exhausted after the first month of hostilities, when the face of the country assumed the aspect of an inhospitable wilderness. The difficulties to be overcome by bodies of regular troops, however small, operating in such a country may be conceived; while, as to large masses, it was totally impossible to feed them. On the other hand the facilities for waging guerilla warfare were proportionally great. We shall observe how Suvóroff by the rapid movement of small bodies of troops overcame the difficulties incident to the situation.

Russia, for the time being, was in no position to maintain large bodies of troops in Poland. The Porte, instigated by the French minister Choiseul, who secretly assisted the Polish confederations to embarrass Russia, was threatening war and at last seized on the pretext of a slight violation of her territory to declare it. It was late in 1768, and no hostilities took place

till the following year, though Russia was compelled to concentrate her forces to provide for the safety of her borders. Troops which might have been poured into Poland were stationed on the banks of the Dniester, which then formed the boundary between the two empires. In this neighbourhood the destinies of Poland were really to be decided. The confederate cause languished and again revived according to the vicissitudes of the strife which raged in Bessarabia. In the spring of 1769 the Moslem armies, advancing to the Dniester, were confronted on the opposite bank by the Russians under Prince Galitzin. That conflict of the "one-eyed with the blind" over which Frederic the Great made merry was then witnessed. Incapacity of the grossest kind on either hand terminated with the retirement of the Ottoman forces south of the Danube.

As long as the chances of victory hung evenly in the balance the Polish confederates, inspirited by the Porte's intervention in their favour, saw in imagination the intruding Muscovite defeated and driven back to his own borders. The invaders of Poland were at this time commanded by General Weimarn who, fixing his headquarters at Warsaw, awaited with much apprehension a popular insurrection such as that which in 1830 delivered the capital into the power of the national forces. Solicitous for the support of Nummers' division, he directed that officer to expedite his movements, in consequence of which on reaching Minsk, then a border town, Suvóroff was sent ahead of the main body with his own regiment and a couple of squadrons of dragoons. To save time the infantry proceeded in country carts with fixed bayonets in momentary expectation of attack, and in two echelons, though this division of force was fraught with danger, for the confederates infested the neighbourhood. At Brest (in Polish Brzesc-Litewski) he surprised and captured without bloodshed two Polish regiments which had embraced the confederate cause. He reached Praga, the suburb of Warsaw lying on the right bank of the Vistula, a distance of 400 miles, in twelve days; in fact, before the despatch which announced his departure had reached its destination. He found the capital in a state of ferment. It was rumoured that Marshal Kotlubowski* was approaching with a force of 8,000 men, and that the populace but awaited his arrival to rise in open revolt. Suvóroff at once started with a detachment 200 strong to reconnoitre the enemy, and, after ascending the left bank of the Vistula for about five miles, he descried their vedettes on the opposite side of the stream. Having discovered a ford and crossed with fifty Cossacks and a squadron of dragoons, he attacked and routed the enemy; but subsequently ascertained from prisoners that a force of no more than

400 mounted volunteers, which rumour had magnified into a strong division, had been opposed to him.

It is difficult to over-estimate the invigorating and tranquillizing influence of a resolute, fearless spirit like Suvóroff's in moments of panic, terror, and confusion. No sooner had the scare occasioned by Kotlubowski been dispelled than news arrived that the brothers Frank and Casimir Pulawski were marching on Brest-Litovski at the head of 2,000 horse. Suvóroff, ever on the alert, started with 1,200 men and 8 guns for that town—an important strategic point commanding the passage of the Bug—and reached it before the enemy could do so. Leaving one half his force in garrison, he pressed forward with the rest to seek the foe, and it is a significant fact that, whilst he was thus risking all with a handful of 600 men, two other Russian generals each at the head of 1,500 men were timidly observing events from a distance. So little indeed did Suvóroff appear to value his antagonist that he requested no help from them before beginning the attack, though it is possible that he shunned his colleagues to avoid being superseded in the command. Taking with him a patrol of 60 dragoons, under Count Castelli, whom he came across by chance, he made straight for the enemy who were posted at a village named Orechowo. "I learnt," he wrote, "that they were carelessly posted in a bad position, crowded in an open space in the wood not far from the village." The front was protected by a marsh, across which a causeway led to a bridge which was swept by two pieces of cannon. Suvóroff, having stormed the bridge, passed his men rapidly across to the opposite side, where he posted them with their backs to a wood, into which in case of defeat they might retire unmolested by the enemy's cavalry. Hardly had they assumed this position when the avalanche of horsemen swept down upon them. A fierce struggle ensued; but the Russian squares were steady as rocks and their assailants at length withdrew to reform their shattered ranks at a distance. Suvóroff profited by the momentary calm to shell the village which lay behind them. When he saw the flames ascending a general advance was ordered, and the Polish horse, alarmed by a conflagration which threatened to bar their retreat, decamped with precipitation. Their flight was gallantly covered by a squadron under Frank Pulawski who, while in single combat with Castelli, was stretched lifeless by a shot from the pistol of his opponent. An episode highly illustrative of Suvóroff's character occurred during the earlier moments of the combat. When the sea of horsemen came surging round the Russian squares an officer exclaimed, "We are cut off!" when Suvóroff at once placed him in arrest in order to check the spread of panic in the ranks. This victory quelled the spirit of revolt in the surrounding district.

* This title indicated no military rank. It denoted the president of a confederacy.

Suvóroff now fixed his head-quarters at Lublin, where he was joined by the remainder of his brigade from Warsaw. A central point in the Poland of those days, this town lies midway between the Vistula and Bug, and forms a knot where the principal roads unite. Its walls, though dilapidated, were strengthened by a castle or citadel, while the suburbs were made defensible by Suvóroff himself, who constituted the town his pivot of operations and dépôt of supplies. From this point he dominated the surrounding country by means of small movable columns, which darted out and crushed parties of the enemy collected within striking distance, and, having accomplished this, returned to their post of observation. So efficacious was this system that soon no hostile force was able to keep the open country.

conjured up a peril for Russia to which she had not hitherto been exposed. The Great Powers took alarm at her successes; dreaded that the dissolution of the Ottoman empire was already at hand, and saw in their apprehensions the Muscovite armies advancing to universal domination. Austria was most of all perturbed. She concluded an alliance with the Porte in addition to affording aid to the confederates of Poland. France likewise improved the occasion; Choiseul, desirous (as Dumouriez in his memoirs frankly avows) of kindling a general war with a view to invading England, liberally subsidized the confederates and sent the above-mentioned officer to the seat of war as their military adviser.

Dumouriez, on arrival at Eperies in Hungary, where



SOLDIERS TRAVELLING IN COUNTRY CART.

The confederates sought refuge in the fastnesses of the Carpathians, a base of operations all the more promising, that Austria, jealous of Russian successes on the Danube, was affording secret aid to their cause. So complete was the subjugation of the plains that during the year 1770 they were the theatre of nothing more stirring than insignificant skirmishes. This collapse, it is true, was in part due to the great victories obtained in the same year by the Russians both by sea and land. In Bessarabia the battles of Larga and Kahul sent the Turks in panic rout across the Danube; while the Ottoman fleet was destroyed at Chesmeh Bay, near Smyrna, by the Russian squadron under Count Alexis Orlóff, assisted by the several British officers. The prestige of these events paralysed for a while the confederate cause in Poland but, on the other hand,

the confederates had fixed their head-quarters, found affairs in a chaotic state; the Polish magnates, luke-warm in the cause they had espoused, were engrossed in the pursuit of pleasures upon which both private resources and the public revenues were recklessly squandered. According to him they were desirous of laying the French King's subsidy likewise under contribution for similar purposes; but he maintained a strict watch over the expenditure, and informed them that their mode of life indicated opulence rather than indigence—words which so exasperated them that they sought revenge by throwing every conceivable obstacle in the way of the fulfilment of his mission. Nevertheless he set to work to remedy so far as lay in his power the confusion which reigned around. There was no artillery, no infantry in the confederate army; nothing

but a mass of irregular cavalry who scorned the restraints of discipline. Each magnate desired a separate command and ridiculed the idea of subordination to a superior. The first care of Dumouriez was to create a respectable force of infantry and to this end he was constrained to employ agents who enlisted Austrian and Prussian deserters on the frontiers ; for the Polish nobles declined to place arms in the hands of their serfs. In this way, by the end of 1770, he had organized 1,800 infantry and 8,000 cavalry, which were in readiness to take the field. To establish some degree of unanimity among the magnates he had recourse to the mediation of the Countess Mnischek, an influential Polish lady, who arranged that, pending the selection of a general-in-chief (who was to be a foreigner, for the magnates would not submit to one of their own number), the campaign should be directed by a council in which Dumouriez was to sit in the capacity of military adviser.

His plan of operations aimed at menacing simultaneously the city of Warsaw and the Russian magazines in Podolia : if Weimarn hastened to defend the latter, to march in force on the capital and there establish the seat of the insurrectionary government ; if, on the other hand, the Russians concentrated for the protection of Warsaw, to direct the mass of his forces on Podolia. The plan was well conceived, but required a disciplined army for its successful execution. The first step was to burst through the cordon of Russian troops which blockaded every avenue from the Carpathians into the plains, extending in front of Cracow from the upper Vistula to the banks of the Donajec. This part of the enterprise was carried out on the night of the 29th April when, as the French General learnt from his Jewish spies, a ball was to be given in Cracow, at which the majority of the Russian officers would be present. But the enemy once driven across the Vistula all semblance of discipline disappeared from among the victors. Each magnate acted according to his own inspiration, and Dumouriez found it impossible to unite them for the further effort. May and the early part of June had been spent in wretched squabbles, when suddenly news arrived that Suvóroff had forced the passage of the Donajec, and was striding forward to the attack.

That commander (now a Major-General) had been disabled for some time through a mishap which befel him in crossing the Vistula. He fell from a pontoon bridge into the stream, but was rescued from death by a Grenadier who, in hoisting him from the water, could not prevent his receiving injury by coming into contact with the woodwork of the bridge. He was bled profusely, according to the fashion of the age and, as a natural result, lay for three months in a comatose state ; but the early spring of 1771 found him sufficiently recovered to take the field. In March he

defeated the Cossack leader Sava at Krasnik in the Lublin district. The latter escaped from the field severely wounded, but was captured at Szrensk on the Prussian frontier. Though well cared for by the Prussians—Weimarn sent him his own surgeon—he soon after died of his wounds. Rulhière,* a well-known but untrustworthy writer, intimates that the Cossack chief was murdered by Suvóroff's orders ; but at the time of Sava's death, Suvóroff was at the other end of Poland, in Volhynia, where he was employed in dispersing a confederate force under the command of Novicki. Ferrand,† in his continuation of Rulhière's work, admits that there is not a tittle of evidence to support this accusation.

Suvóroff was returning from Volhynia when he heard of the confederate advance and the consequent retreat of his countrymen beyond the Vistula. On the 15th June he started for the scene of action with about 1,600 men and eight guns. On the 19th he forced the Donajec, when Pulawski, who defended the passage with 2,000 men, fled into the mountains, abandoning the main body of the confederates. On the advance of the Russians becoming known, Dumouriez indicated Skawina, a village near Cracow, as the point of concentration for his forces, and entreated Pulawski to proceed thither but, according to the Frenchman's account, the Polish leader replied by an insulting message expressive of his determination to act independently. It must be admitted that the spot chosen was too far in advance for secure concentration in the face of an active General like Suvóroff, who had already reached Cracow and set free its garrison 2,000 strong. Repulsed in an attempt on the strong convent of Tyniec, near Cracow, he turned upon Dumouriez's detachment, which was now in full retreat toward the mountains. On the 22nd he overtook them, 3,000 strong, posted on the heights of Landskron. Their position was a spur of the Carpathians ; their left covered by the castle of Landskron, their right by a wood and ravine, and front by a slope covered with brushwood. Some distance in advance, beyond an intermediate ravine, lay another eminence. French tirailleurs occupied the wood on the right and the brushwood in front. No sooner had Suvóroff arrived with his advance guard than he seized without a moment's delay the eminence in front of the enemy's position, and without hesitation sent his Cossacks, supported by a squadron of regular cavalry, dashing across the ravine against the wooded slope. Having cut down the sharpshooters which guarded the wood, these horsemen galloped on precipitately and in apparent disorder against the main position ; when Dumouriez, having

* *Anarchies de Pologne*, iv. 221. Duboscage, his countryman, styles this work a "diffamatory libel."

† *Histoire des trois démembremens de Pologne. Suite de l'histoire de Rulhière.*

marked their irregular onset, endeavoured to lead his squadrons to the charge. In this, however, he did not succeed, for the greater part, after discharging their carbines, galloped from the field. A small band under Mionczinski endeavoured to retrieve the fortunes of the day, but the leader was taken prisoner and his followers perished or shared his fate; while Prince Sapieha in attempting to rally the fugitives received death at their hands. The left wing alone, protected by the guns of the castle, effected an orderly retreat. The action lasted but half an hour. Dumouriez escaped at the head of a few French horsemen and soon returned in disgust to France. The Duke de Choiseul had been dismissed from office and was succeeded by the Duke d'Aiguillon, who looked coldly on the enterprise of his predecessor in Poland.

Pulawski had profited by Suvóroff's absence to seize Zamosc, a town which the latter must pass in returning to Lublin, and when, after the action at Landskron the Russian leader approached, he issued forth to the encounter. The Poles were defeated after a gallant resistance, and their commander retreated to the mountains with such skill, that Suvóroff next day sent him a porcelain snuff-box in token of his admiration. For these services the Empress bestowed on her general the Order of St. George, which he solemnly pinned on his breast in presence of his troops assembled on parade. He caused divine service to be performed; he expressed his gratitude to his "mother," the empress; thanked his men for their bravery and conduct, nor forgot to improve the occasion with the artless joke: "Remember, boys, St. George the Victorious fights with us now." But his utterances, grotesque as they may seem, were suited to the mental calibre of his audience. "Bravo, heroes!" he would shout to his men after each success. "Listen and remember: Obedience—Discipline—Instruction—Order—Cleanliness—Health—Drill—Courage—Victory—Glory, Glory!" These simple devices, we are assured, brought tears into the eyes of the uncouth soldiers, and when desperate deeds were to be done the whisper would pass through their ranks: "To conquer or die; Father Suvóroff hath said it."

Prince Oginski, Grand Hetman, or Commander-in-Chief of the Polish regulars, was stationed with several regiments in Lithuania. Having agreed to embrace the confederate cause, he had delayed action till too late, but was dragged into the movement through the influence of a mind more powerful than his own—by Kossakowski, the colonel of the Black Hussars. Early in September (1771) the Prince attacked a Russian battalion, and compelled it to surrender at discretion, a misfortune which once more revived in Warsaw terrors which had but recently subsided. Suvóroff at once applied for instructions to General Weimarn, who

rejoined by commanding him to remain where he was. But this manœuvre, so easy of execution, was not to the general's taste. Overcome with indignation and disgust, Suvóroff acted for himself, and committed an act of insubordination which was of course judged by its results. We are assured that he returned the insolent reply: "The match to the gun, Suvóroff to the field!" and at once set out for Lithuania with such troops as he had at his disposal. They were about 500 in number, but at Biala he received from Brest reinforcements which doubled his strength. Having reached the town of Slonim in the province of Grodno, distant 120 miles, in four days, he learnt that Oginski lay with from 3,000 to 4,000 men at Stolovitshi, a village some thirty miles in advance. He had lost, as usual, about 150 stragglers, but was indifferent to this, exclaiming: "So much the worse for them; they will not share in



COUNT ALEXIS ORLOFF, VICTOR OF CHESME.

the victory!" When the position of the enemy was ascertained, he decided to advance, after a halt of two hours, to the attack. The night was dark and tempestuous on the 22nd September when, at 10 P.M., Suvóroff reached the town of Stolovitshi. The unsuspecting confederates lay wrapt in slumber as, guided by a lamp which gleamed from a convent tower, he made the circuit of its walls without arousing the vigilance of the sentinels. He disposed his troops thus:—Four companies of infantry in first line; behind these, two guns, escorted by a company of foot; three squadrons of cavalry in second line, and a reserve which consisted of one company of infantry and the Cossacks. During the advance four lancers belonging to the enemy were surprised and captured with raising an alarm, but an unforeseen obstacle was soon encountered in the shape of a marsh, which was traversed by a single causeway some 200 yards in length. The infantry, followed by the

horse, slowly defiled across this passage, but the officer in charge of the guns in an attempt to drag them through the bog itself left them imbedded in the mire. When the Russians at length began to reform on the opposite side a musket discharged from the walls of the town gave the alarm. The Poles sprang to their posts, but were not in time to form their ranks in time to receive the attack; the cavalry had not time to mount, but abandoned their horses; the town was evacuated in haste and confusion. The soldiers of Albutieff's battalion, who had been taken prisoners by Oginski, having been discovered in their places of confinement, were released and equipped with the enemy's arms. Oginski himself narrowly escaped capture. When morning broke the Poles offered battle outside the town and Suvóroff accepted the challenge. Being out-numbered, he moved obliquely to his left and attacked their right wing, a manœuvre he may have witnessed during the Seven Years' War. When he thought victory assured, a thousand Polish lancers galloped on to the field and renewed the conflict. Nevertheless the confederates, after brave resistance, at length gave way, and taking the direction of Slonim abandoned their military chest containing 50,000 ducats (or £24,000) to the victors. After an hour's repose, the Russians followed, and their column, trailing out to the extent of two miles owing to the quantity of booty and prisoners taken, might have been attacked with advantage by the Poles, had they possessed sufficient enterprise. Suvóroff, leaving sick, wounded, and prisoners at Slonim, returned to Lublin by Pińsk. "Well-conducted surprises," he wrote, "are generally successful. The soldier, startled from his sleep, seldom offers a stout resistance. The more sudden the danger, the greater it appears; and his first thought when surprised is not of resistance but escape and flight." On arrival at Lublin the insubordinate victor was placed in arrest by Weimarn's command. His disobedience of orders had, it is true, been flagrant though justified by success; yet it would have been prudent on the part of Weimarn to have simulated for the occasion a short memory. On the contrary, he applied to Petersburg for a court-martial on the delinquent, of course without success, and he might have foreseen that his own motives were certain to be called in question. The upshot of the affair was Weimarn's supercession in the command by Bibikoff, a general officer who enjoyed the advantage of personal friendship with Suvóroff. A *generalissimo* was required who could consent to work in unison with an eccentric but indispensable subordinate. A letter addressed by Suvóroff to this officer while in confinement pending reference of his case to the Empress is subjoined as a specimen of his epistolary style. The fact of its being originally written in French is an additional reason for its selec-

tion, as no translation from the Russian would convey an adequate idea of the quaintness of the original:—

"Kreuzburg, 25th November 1771.

"Un animal, dis-je, de notre espèce, accoutumé aux soucis, malgré les inconvénients inévitables, se croit un bête quand il en manquerait, et les trop longs délassements casuels l'assoupissent. Que ces fatigues passées me sont douces ! Je ne visais qu'au bien patriotique enclavé dans mon devoir au service de mon auguste Imperatrice, sans faire tort particulier à la nation où je me trouvais, et les revers mêmes occasionnés par quiconque ne faisaient que m'encourager. La réputation est le partage de tout homme de bien, mais je fondais cette réputation dans la gloire de ma patrie, dont les succès n'étaient que pour sa prospérité. Jamais un amour propre, occasionné le plus souvent par un instinct passager, n'était maître de mes action, et je m'oubliais s'il y allait du patriotisme. Une éducation farouche dans le commerce du monde, mais les mœurs innocentes de ma nature et une générosité de coutume m'aplanissaient les travaux. Mes sentimens étaient libres et je ne succombais pas. Dieu ! me trouverais-je bientôt dans des cas pareils ! A présent je languis dans une vie oisive propre à ces âmes basses qui ne vivent que pour elles, qui cherchent le souverain bien dans cette lassitude, et de voluptés à voluptés courrent dans les amertumes. Une misanthropie couvre déjà mon front, et je crois prévoir dans la suite une plus grande détresse ; une âme laborieuse doit être toujours nourrie dans son métier, et les fréquentes exercices lui sont aussi sains comme les exercices ordinaires du corps."

This may not be, as an admirer has declared, the literary style of the age of Lewis XIV.; yet it presents to the mind a more solid attraction by reflecting the thoughts of a unique and original character. The genuineness of its sentiment can hardly be called in question; for the writer was among those who, when they err in their utterances, do so by excess of candour. His epistles to Bibikoff were sometimes marked "*à l'Anglaise*," which seems to have indicated that more than usual candour was about to be used. To return to the facts of his career: he was not arraigned before a court-martial, but received the order of St. Alexander Nevsky with the thanks of his sovereign for his brilliant feat in arms.

In the beginning of the year 1772 General Viomesnil assumed the post which had been vacated by Dumouriez. Though ill-supported by the French Ministry he set vigorously to work at repairing the disasters which had befallen the confederate arms. To reanimate the courage of his crest-fallen allies he planned the surprise of the castle at Czajow, an edifice which, perched on a cliff overlooking the Vistula was at that period encircled by walls of masonry thirty feet high and seven in thickness. The garrison of the city consisted of a detachment from the Soozdal regiment, now commanded by a Colonel

Stackelberg, though the castle was guarded by no more than thirty men. Stackelberg was, unfortunately for himself, enamoured of a Polish lady in secret communication with the enemy, who succeeded in persuading him to remove the sentries from a certain portion of the ramparts where, she averred, their cries and challenges interfered with her slumbers. This turned out to be no other than the locality near which the main drain issued from the Castle, and by this sordid avenue did the French propose to effect an entrance. On the other side, the Russians having been recently strengthened by fresh arrivals from their country, it was resolved to deal the insurgents a crushing blow in the very heart of their

Their next act was to throw open the gates to Brigadier Choisy who, with a body of 500 picked horsemen, was awaiting the event outside. Stackelberg was at a ball, waltzing with his fair, when news of misfortune first assailed him, and he threw himself with such troops as he could collect in the direction of the castle. But his attempt failed, and the French remained masters of the place, in which were found ample stores excepting meat only. Two days later Suvóff, having learnt what had passed, hurried to the spot with 800 infantry, five regiments of royalist Polish lancers and a few guns. Having dragged the latter to the roofs of houses in the vicinity of the castle, he



SURRENDER OF CRACOW.

mountain fastnesses. Suvóff himself was about to start from Lublin on a distant raid, when information reached him of the danger by which the ancient capital of Poland was threatened. But, deeming its source suspicious, he neglected to act thereon and departed in prosecution of the business in hand.

On the night of the 2nd February a band of volunteers, under Captain Viomesnil, nephew to the general, proceeded to the execution of their adventurous design. With white shirts drawn over their uniforms, for snow lay on the ground, they crawled through the narrow aperture of the drain, surprising the feeble garrison of the castle, whom they instantly put to the sword,

opened fire and on the 29th risked an assault, which the French repulsed, inflicting on the assailants a loss of 150 men. After this rebuff the siege was converted into a blockade.

The intrepid Kossakowski now approached Cracow with his Black Hussars, when Suvóff, sallying forth at the head of his cavalry, engaged him and drove him from the neighbourhood, but nearly lost his life in the fray. An officer of lancers, Reich by name, having sworn to take his life, rode fiercely at the object of his aversion, and, after discharging his pistols without effect, attacked him with the sabre. Suvóff, crossing swords with alacrity, returned blow for blow and thrust for

thrust; but must have succumbed in the end to his youthful and vigorous assailant, had not a Russian cuirassier galloped up in the nick of time and shot the lancer dead.

Late in April provisions ran short in the castle, and Galibert, Viomesnil's second in command, appeared at Suvóroff's quarters with proposals for surrender. Extolling the military exploits of the Russian chief, he wisely endeavoured to mitigate the terms by skilful adulation; but was shown a chair and asked to commence business. The conditions offered were moderate; but next day the envoy, returning in hopes of further concessions, had their stringency increased; they were of course accepted, and the castle surrendered. The French officers retained their swords, Suvóroff merely remarking to them as he invited them to dinner: "That his Empress was not at war with their King; consequently they were not prisoners but his guests." Nevertheless, in spite of amenities, he marched them under proper escort into Russia and, when D'Alembert interceded with Catherine for their liberation, she replied, as Guizot laments, with "pleasantries" of the *ne sutor* kind. Suvóroff next laid siege to the strong convent of Tyniec, which had previously baffled his assaults, but was shortly afterwards relieved by an Austrian force. They entered Galicia in pursuance of the treaty of partition, upon which the three Powers implicated were now agreed, since Russia had been induced to relinquish her conquests on the Danube in exchange for a portion of the Polish spoil—the transaction being confirmed by the Diet, coerced, it is true, by Russian troops. The confederates, outlawed and overwhelmed by numbers, thought further resistance useless; Casimir Pulawski, having emigrated to America, was killed fighting under the banner of Washington. Those who remained behind perished or submitted to their fate. "Quiet reigned in Warsaw," as was declared on a subsequent occasion.*

In September Suvóroff joined Elmpt's corps, which was slowly progressing through Lithuania on the way to Finland in view of a possible rupture with Sweden, whose young king, Gustavus III., had recently by a *coup d'état* annihilated the preponderance of the aristocracy and possessed himself of almost absolute power. As a consequence the faction devoted to France gained the upper hand and war with Russia seemed imminent. But this anticipation was not realised and Suvóroff's activity on the Finnish border was limited to the inspection of fortresses, and ascertaining the opinions of the inhabitants regarding the late revolution in Stockholm. Such being the case, early in 1773 his fondest wishes were gratified and he proceeded to the Danube

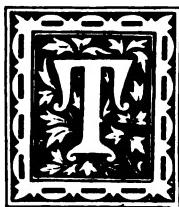
to take part in that hereditary strife with the infidel which so powerfully appeals to Russian sympathies. He felt a deep antipathy for the Polish war, and ardently longed for a more congenial sphere of action.

These three years of warfare in Poland, though everything was on a small scale, are worthy of close attention, if skilful adaptation of means to ends be the test of military capacity. In this art Suvóroff was a master, as we shall see. He fought Turks and Tartars, Poles and Frenchmen, each in a different way. In the present instance, having thoroughly comprehended the nature of the ground and the character of the struggle, he adhered to one simple plan, which alone in the long run could guarantee success. It would have been absurd to attempt to guard the whole extent of such an immense theatre of war, thus imitating the disjointed proceedings of the enemy. From his pivot at Lublin, whence the highways radiated, he darted like a spider in its web on the foe and crushed him before he became formidable. At the same time he maintained a chain of posts which connected him with Warsaw and Cracow, the chief cities of the kingdom; likewise at points commanding passages over rivers, such as Pulawa and Sandomierz on the Vistula, Brest and Sokol on the Bug. The reason for his turning a deaf ear to warnings concerning Cracow may be found in the fact that men of his stamp abhor change of enterprise once commenced. If he suffered repulses from fortified towns, it must be remembered that engineering science and its appliances were in that day extremely defective, a truth the British in Spain were soon to realise. Yet it may be at once admitted that his storming the Castle of Cracow when a blockade would have answered every purpose involved useless bloodshed. He excelled in rapidity of movement, but used to say when extolled in this respect: "It is nothing. The Romans marched faster. Read Cæsar." If this be true, his sincerity may be called in question; for he was fond of comparing his exploits with those of Cæsar and Hannibal, not always to the advantage of those heroes, and justified his arrogance by asserting that the Romans boasted in public in order to excite an emulation in glory. He was honourably distinguished in Poland from some by the humanity of his conduct. The subjoined extract from a letter to his friend Bibikoff, written by him on quitting Poland, may throw light on his disposition at this period. "I follow my destiny. I approach home and quit a land where I have wished to do good, following the dictates of my heart where duty did not stand in the way. I am glad that the people recognize this. I love them and leave them with regret; for I did my duty like an honest man."

* By General Sebastiani in 1831.

THE DOVER EASTER MANŒUVRES, 1888.

BY OUR OWN CORRESPONDENT.



HE Dover Easter manœuvres furnish their military lessons, and with some of these from a tactical point of view we propose to deal. A sham fight, especially in a cultivated country like Kent, can rarely be expected to furnish a complete tactical example; so many other things, including the crops, have to be taken into consideration besides tactics, which would alone influence the commanders on a real battle-field. Our object is to try and improve on the instruction those manœuvres have afforded by pointing out some of the tactical theories they practically demonstrated.

It is easy to criticise peace manœuvres, but, when no evil consequences are felt, mistakes which might be fatal in war are often lightly passed over, and, without criticism of some sort, these mistakes are not so likely to be avoided in future, while some of the successful manœuvres are apt to be misapplied under altered circumstances.

The General Idea

was that a force of unknown strength had effected a landing somewhere between Dymchurch and Dungeness. The officer commanding at Dover had communicated with Ashford and Canterbury, whence two columns had been despatched to his assistance.

The Special Idea for Saturday, March 30th,

was that in order to prevent the junction of these two columns with the Dover forces, the invaders were to take up a position to command the roads leading from Up Hill to Dover.

On Saturday the Ashton and Canterbury columns were supposed to unite at Forstal Lodge, on the Canterbury road, and to discover the enemy's outposts. In the course of the action supposed to ensue, the commander of the invading force, fearing for his right flank, threatened by the approach of a column from Dover, was supposed to fall back on Folkestone, and the Ashford, Canterbury and Dover forces having effected their junction, were to take up a position to cover Dover; their left at Hougham, right at St. Radigund's Abbey, with detachments in Hougham Court, West Hougham, and Mount Ararat, and to entrench themselves.

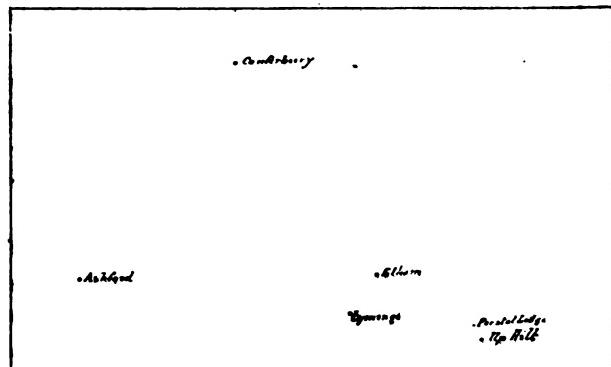
Special Idea for Easter Monday.

On Easter Monday the invaders strongly reinforced were to attack this position, which is protected on the

left by the English Channel, and also covered on this flank by the guns of Dover citadel.

On Friday night, March 30th, the Ashford column, commanded by Colonel the Hon. P. Methuen, C.B., C.M.G., divided in two brigades, lay at Lyminge (1st Brigade), and Elham (2nd Brigade), two places about three miles apart, and situated some eight miles south-east of Ashford. The Canterbury column, commanded by Colonel C. Tucker, C.B., on Friday night lay in the neighbourhood of Canterbury, and had, therefore, about fifteen miles to march on Saturday morning to Forstal Lodge, the appointed place of junction with the Ashford column, which latter had about six miles to march to reach the same place.

These two forces, marching in three convergent roads, are said to have established lateral communication with each other; however this may be, the Canterbury column outmarched the Ashford brigades, and when the signal gun was fired at 1 P.M. (after an hour's delay) Colonel Tucker found himself in presence of an enemy of unknown strength without having established "co-operation" with the Ashford forces on his right, or with the Dover detachment on his left, "*clearly demonstrating the uncertainty which attends all preconcerted plans, when forces are divided, even for so short a distance and unopposed.*"



We must now turn to the invaders' side, and note their dispositions. Their outposts extended along the general line from the west of Killing Wood to Lower Standen, and are shown on the accompanying map, thus O. Their *main position*, awaiting events, extended from Single Tree on the left to Deserted House on the right, with a strong occupation of the hamlet of Hawkinge, situated near the eastern extremity of a lower plateau about 1,700 yards in advance of the right centre of the main position. Hawkinge was held by six

companies of infantry and two squadrons of hussars. One battalion was posted about 400 yards south-east of Hope Farm, to guard the invaders' right flank supposed to be threatened from the direction of Dover. A squadron of hussars was also on the right flank.

According to the "Special Idea," the invaders had to be beaten, and their commander wanted to show a fight; he took up this position to force the Ashford and Canterbury columns trying to join the Dover garrison not to ignore him, but to attack. It is necessary to note particularly that Colonel Le Grice, R.A., commanding the invading force, was obliged to be beaten, and if he had begun the fight at Forstal Lodge, where the enemy was supposed to concentrate, or if he had issued out and attacked the Canterbury force east of Hawkinge, the battle on Easter Monday might never have come off.

The invaders' force, under Colonel Le Grice, consisted of three squadrons of hussars with four and a half battalions of infantry, and four guns. That this small force, after furnishing its outposts, had to be unduly extended there can be no doubt, especially as one battalion had to watch the road leading from Dover. Under these circumstances the strong occupation of Hawkinge with an isolated battalion which it was not intended to support appeared somewhat risky.

Although Hawkinge was undoubtedly a strong *point d'appui* for the enemy, it was too far from the main position to be held by such a small force. As a matter of fact, two companies of this battalion were cut off, and the remainder were very severely handled while retiring until they reached the cover on their own side of the valley which divides Hawkinge from the main position.

"Never place troops where they cannot be supported" is an old maxim of war. Hawkinge and Upper Standen were occupied by two squadrons of cavalry and a battalion of infantry completely isolated from the main position; the ground between was down a bare slope across an open valley, and then up a steep broken ascent; and was, therefore, during the first half of the retirement, unfavourable for a withdrawal in contact with what might have been a greatly superior attacking force. While waiting for the signal to commence operations, some of the Canterbury troops had worked round Upper Standen, and at 12 o'clock the advanced brigade was halted, by direction of the Umpire-in-Chief, on the road midway between Upper and Lower Standen. At 1 P.M., after a delay of about an hour, the signal gun was fired, and operations were begun by Colonel Routledge's brigade, composed of two made-up battalions (2nd V.B. Middlesex Regiment and 2nd V.B. Royal Fusiliers under Colonel Clark, and 21st V.B. Middlesex Regiment and 1st V.B. East Kent Regiment under Lieut.-Colonel Deane, and a Nordenfelt gun.) The 2nd V.B. Middlesex Regiment took possession of Lower Standen while the invaders opened fire with their battery from the Knoll to

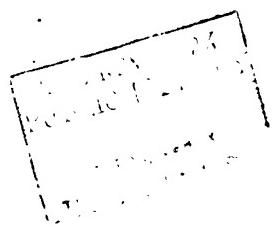
the west of Hope Farm. At the same time Colonel Tucker's 1st Brigade, under Colonel Brown, attacked Hawkinge.

Colonel Routledge now made the following dispositions which show clearly that no communication had been established between him and the detachment moving out from Dover. One company 21st Middlesex was ordered to hold Lower Standen while the remaining five companies were directed to work round the invaders' right flank advancing along the Coldham road *via* Hockley and Sole. This battalion, to a certain extent, fulfilled its mission, but never came into action. Had Routledge been in communication with the Dover detachment, there would have been no necessity for him to divide his small brigade, and thus weaken his attack. The remaining battalion under Colonel Clark formed for attack, and advanced down the slope covered by the fire of the Nordenfelt gun, directed against the corner of Lady Wood, at about 1,700 yards range. Soon after issuing from the shelter of Lower Standen this battalion was attacked in flank by two companies of the invaders while passing the copse on its right; but promptly wheeling its second line, drove them back, and proceeded to attack Cylinder Wood and the west of Lady Wood. It was on this flank that a squadron of the invaders' hussars was put out of action; riding almost into Lower Standen, they were taken in front and rear by the company of the 21st Middlesex which had been left behind, and a couple of companies detached from the battalion marching round the flank. Routledge's attack was thus delivered by a single battalion, and before reaching the foot of Coombe Bottom the whole of his supports and reserves were absorbed into his fighting line. It is probable that Colonel Tucker intended the 21st Middlesex to support this attack. Although Clark's battalion scaled the opposite heights, and eventually reached the centre of the invaders' first position unscathed, had it been real war, in spite of the gallant support it received from the 1st Brigade on its right, and of the fact that its Nordenfelt gun advanced to support it while crossing the valley, the few survivors of Colonel Clark's regiment would have been glad to take shelter behind the narrow belt of small trees marked Cylinder Wood.

This advance of the 2nd Brigade against the invaders' right centre was well supported on its own right by the 1st Brigade, consisting of the 7th Middlesex (London Scottish), Major Nicol, 12th Middlesex, Major Mills, and (16th and 17th Middlesex) Lieut.-Colonel Jones. This brigade, under Colonel Brown, after sweeping through Hawkinge, advanced in attack formation down the slope south of St. Michael's, and, coming quickly up to the 2nd Brigade, scaled the heights alongside of it. Colonel Brown's brigade would also have lost heavily, as it was under the fire of the invaders' guns during its whole

~~Lorong 11/16~~
~~Brigade St 12/16~~

u u 2



advance. Their opponents, the Leinster Regiment, gave them a good example of how a retreating fight should be fought, delivering their fire with much coolness and deliberation. Apparently the two companies of the last-named regiment from the wood below Upper Standen rejoined their comrades before they withdrew, in which case their retreat must have been cleverly conducted, considering they were cut off and out-flanked.

At 1.20 our attention was directed to the right. Colonel Methuen's troops, which had been massed on the roads behind Coombe Wood, were coming into action and advancing in echelon between the Up Hill, Folkestone road, and Chalk Lane, one black battalion (1st Royal Warwick) keeping back in echelon of companies on the west of the road below Killing Wood, while a battalion of sappers on the extreme right was apparently held in reserve. Before galloping away to the right, Napoleon's well-known rule, "Never attack with a fraction of your force, if a short delay will enable you to attack with the whole of it," flashed across our recollection.

The withdrawal of the invaders, who had been steadily falling back towards their second position, evidently expecting an attack on this flank, was now imperative. During this retirement some of the companies are said to have been closely packed together. It is not improbable that they thought the attack had been rather too feebly supported to have been so entirely successful.

Methuen's attack was in prolongation of Tucker's, to the right, and, like that of what we may now call the "left wing," was delivered in echelon of brigades. Apparently Colonel Methuen's first idea must have been to cut across the invaders' line of retreat, and get between him and Cæsar's Camp; but seeing how far the left had penetrated, he brought up his right shoulder and delivered a very determined attack on the left of the invaders' second position. It was 1.30 before his troops came into action, when their rapid deployment was creditable to all concerned. No troops could have come into action in better form. There was no confusion, no yelling, no overlapping. At 1.30 the 1st Tower Hamlets' Gardner guns came into play on a little knoll just off the road south-east of the White Horse public-house, and at once scored a success by delivering their fire, at 1,000 yards range, plump into a squadron of the invaders' cavalry, slowly retiring down Chalk Lane, from Hawkinge, across the fire-swept valley immediately between the hostile forces. This squadron, even if it had been galloping, would have been severely peppered; as it was, it must have been nearly annihilated.

From the commencement of the action the invaders' cavalry at Hawkinge, where they were huddled together behind their own infantry, had been in a false position. Before the gun fired, these two squadrons, supposed to furnish the scouting parties, very properly did nothing. When the signal to commence was given, they had

already been nearly enveloped by the enemy, who had crowded all round them, and it was then too late to go through the farce of scouting for an enemy about 150 yards in front of them. The ground was unsuited for cavalry, and why these squadrons were not withdrawn to the flanks when Hawkinge was held by three companies of infantry and a strong reserve, is a matter for wonder. Under any circumstances a couple of patrols could have gained all information required.

The withdrawal of these squadrons was an instance of *how entirely dependent on ground this arm is for its effective action*. Having achieved this success, the 1st Tower Hamlets machine guns moved off to the left, down the slope, and subsequently exposed themselves in the most reckless manner while supporting the attack. Their place was quickly taken by the four guns of the School of Musketry, two Nordenfelt and two Maxims. These guns came into action on the spot just vacated by the Tower Hamlets at 1.45, and were exceedingly well handled throughout the remainder of the fight. At the same time Methuen's field guns came into action behind Killing Wood, and engaged those of the invaders as soon as they showed on the left flank.

The cannonade was now pretty lively, and the action became general along the whole line. As far as we could make out, there were no reserves anywhere. Methuen directed the companies of the Warwick Regiment, on the west of the road, to bring up their right shoulders. On the extreme right of all was a battalion of Middlesex Engineers. We now went over to the invaders, down a dip and up the very steep grass hill marked Windgate Hill. Here the 43rd Oxfordshire Regiment was steadily pouring a deadly fire into the attackers below, and the invaders' guns were engaging those of the attack, and shelling his infantry and machine guns, which, as we observed before, during the fight were too close to each other, and offered a splendid target.

We now formed the decided opinion that the attack on the left must have failed. The Warwickshire Regiment was exposed to a murderous fire, while the Engineer battalion in quarter column on the extreme right received occasional volleys delivered by the two flank companies of the 43rd Oxfordshire, without attempting to deploy or move behind cover. The Oxfordshire Regiment, especially the two companies on the left, and the guns did very well, and rendered a good account of all in front and below them. At 2.20 p.m. the "Cease fire" sounded and the battle was over. Taken all round, it had been a pretty fight, and a most instructive one.

The marked features in the day's proceedings were:—First, the marching qualities of the troops and their wonderful condition. Secondly, their high state of discipline. Thirdly, the good handling of battalions, and, as a rule, companies. Section commanders have

still to realise that it is upon them, and the control they exercise over the expenditure of ammunition, that the success of a battle mainly depends. In spite of the plucky manner in which they were handled we were impressed with the idea that the incessant bark of the machine guns was probably worse than their bite would have been. Some of those working in the open, and close together, would certainly have been blown to pieces. It made us shudder to think of the effect upon them which might have been produced by a single well-directed shell. A machine gun requires cover and cannot yet engage artillery except under exceptional circumstances at close quarters. We would rather have seen an attack on a smaller scale with a second line and a general reserve. There were not enough men by half to carry the positions attacked.

Some system must be devised for checking the attack, and for having very competent umpires to point out mistakes when made. The cavalry have still to learn that their first duty is scouting, especially on the flanks.

A long pause after the "Cease fire," during which the men might rest in their exact positions, would enable the general situation of the troops on both sides to be noted, and commented on there and then by the chief umpire on the spot.

NOTE.—In our next issue the fight on Easter Monday will be illustrated and briefly commented on. In the meantime we recommend those who are interested in the subject to read the very able articles which appeared in the *Dover Standard*, 7th April, under the headings "With the Defenders" (by a Military Correspondent), and "The Battle of Hougham," from a military point of view, which was concluded in the issue of April 14, by Major H. T. W. Allatt, P.S.C., Instructor in Fortification, Royal Military College.

It must be borne in mind that since Major Allatt wrote these articles, the decision arrived at on the field by the umpires regarding Colonel Methuen's guns has been reversed.

NAVAL AND MILITARY NOTES AND QUERIES.

RECONNAISSANCE.—The duty of covering the front of its own army, and gaining information regarding the enemy's position and movements, is almost entirely undertaken by the cavalry. In a restricted sphere, the divisional cavalry provide for the immunity of the troops to which they are attached from surprise, especially on the flanks, when they are engaged. The duties of the cavalry when so employed are not confined to simple observation alone. No possible sources of information are to be neglected; the inhabitants must be examined, prisoners taken, when practicable, for a similar purpose, newspapers, letters, and other available correspondence carefully investigated for any information that may prove useful. Though, in order to attain their object, it may become necessary for the covering cavalry to engage

the enemy, the main purpose to be kept in view by them is observation. For this purpose small bodies are best adapted, and officer's patrols, composed of subdivisions or squadrons under selected officers, are usually employed. This allows of small patrols belonging to the enemy being overpowered, and of orderlies being sent back with reports, as occasion requires. Where circumstances necessitate it, the bulk of the patrol will be left behind, concealed from the view of the enemy's advanced troops, while the officer, accompanied by one of the best mounted men, goes forward to reconnoitre. Every independent cavalry leader, down to the commander of the squadron, and even of the officers' patrols, is responsible that the touch obtained of the enemy is not lost.

R. O'BYRNE.

THE CONQUEST OF THE PUNJAUB.

CHAPTER VII.

THE PASSAGE OF THE CHENAUB.—SADOOLOAPORE.



NTIL the 30th November the opposing forces lay opposite each other, the Sikhs on the right bank of the Chenaub, the British on the left near Ramnuggur. On that day the arrival of the heavy artillery from Ferozepore enabled Lord Gough to put into execution his plans for crossing the river. This plan, decided on after its dangerous alternative—a frontal attack, had been discussed and abandoned, was to move a force up the river to the fords at Ranee-ke-puttun, whilst the enemy should be engaged by a diversion in his front on the part of the main body. The flanking force having crossed the river by means of the ford and pontoon-train, a simultaneous attack was to be made on the Sikh position.

Major-General Sir Joseph Thackwell was entrusted with the execution of the dangerous task, and the troops placed at his disposal consisted of the 1st Brigade of Cavalry, under Brigadier Michael White (3rd Light Dragoons, 5th and 8th Bengal Light Cavalry), and the 3rd and 12th Irregulars; Hoggan's Brigade of Infantry (61st Foot, 36th and 46th Bengal Infantry); part of Pennycuick's Brigade, viz. the 24th Foot and 25th Native Infantry, and a brigade under Brigadier Eckford, which included the 31st and 56th, and a wing of the 22nd Bengal Native Infantry, while to these were added the Horse Artillery troops of Christie, Huyshe, and Warner, and two light field batteries (Nos. 5 and 10), under Kindleside and Austin, Colonel Grant commanding this arm. The infantry of the force was under the command of Brigadier-General Colin Campbell, C.B.

Secrecy being absolutely essential for the success of the movement, the troops detached for the enterprise were ordered to assemble in rear of the camp of the 3rd Light Dragoons, at 1 A.M. on the morning of the 1st December, and then marched as silently as is compatible with the habits of an Eastern army in the direction of Ranee-ke-puttun.

The jumbling of the camel, that most useful and yet most annoying of all beasts; the shouting and screaming of the innumerable camp-followers bade fair to arouse the Sikh camp to the fact that some important movement was in progress; but, after all, at night such sounds are carried but a short distance, and Oriental

sentries, unless trained by English methods, report little but what they are particularly enjoined to report; and so Thackwell's force moved off undetected.

It was 11 A.M. ere Ranee-ke-puttun was reached, when Thackwell learnt the discouraging news that the ford was impracticable. Nothing daunted, the stout-hearted old soldier, giving his men time for rest and for dinner, pushed on to Wazeerabad, distant about thirteen miles from his starting-point. Here Nicholson, that gallant soldier whose death at the storming of Delhi seven years later dimmed the lustre of that noble feat of arms, had secured seventeen boats; and with the help of these our guns were pushed across the stream. The infantry crossed partly by wading, partly in boats; but, as night overtook the force ere the preparations for the passage were completed, Thackwell postponed the passage of the artillery until the morning of the 2nd December. When his whole force was massed on the right bank, Thackwell ordered the pontoon-train to return to the head-quarter camp, under the escort of the 12th Irregulars, two companies 22nd Native Infantry, and two guns No. 10 Light Field Battery. Having lightened himself of this cumbrous machine, pickets were thrown out, and the men allowed to rest for their dinners.

At 2 P.M. Thackwell wheeled up to his left, and commenced the march on the Sikh encampment. His left, resting on the Chenaub, was composed of the 3rd Irregulars, under Tait; then came his three infantry brigades, moving in line of quarter columns at deploying intervals. White's Cavalry Brigade was on the right flank, and to it also was entrusted the duty of scouring the front of the advance. Unmolested the troops moved forward, and at sundown they bivouacked for the night in the vicinity of the village of Doreewal, about twelve miles from the Wazeerabad ferry.

At dawn on the 3rd December the troops were once more under arms; but, as they were moving off, a camel-sowar arrived from Lord Gough, instructing Thackwell to postpone his further advance until reinforced by the 9th Lancers, 14th Light Dragoons, and Godby's Infantry Brigade, which would join him by the Ghurra-ke-puttun ford. As the ford was almost abreast of the village of Doreewal, Thackwell moved the 56th Native Infantry and Tait's Irregulars to the left, to open

up communication with Godby, and to hold in check a strong force of Sikh cavalry which appeared to be moving in the same direction; and at the same time he occupied the three villages of Jarwalla, Rutta, and Khanookhan, which lay in his immediate front, with his advanced troops. Then, throwing out strong cavalry patrols to his front and right flank—his left, be it remembered, rested on the river—he permitted his men to fall out.

Between 2 and 3 P.M., a few round shot falling into the midst of our bivouac warned Thackwell that the enemy were moving against him, and he at once proceeded to take measures to receive them. His front being covered by high sugar-cane, the general determined to fall back, and so entice the enemy into the open where the action of his splendid artillery might have full play.

Fearing that the Sikhs, divining the weakness of his force, would endeavour to work round his flanks and cut up his baggage-train and rear-guard—a favourite device of all Eastern nations—Thackwell deployed his men into line, in order to present as wide a front as possible to the enemy. The accompanying sketch shows the formation of his little army.

The withdrawal of the advanced troops from the villages in our front had the desired effect, for the Sikhs pressed closely on the skirmishers of the 24th with loud cries, "*Feringhee bagh jaten*" (the English are running), followed up by the old Sikh battle-cry, "*Wah wah gooroo jee ke futteh*"; but no sooner had the leading masses emerged into the open than they were met by a well-sustained fire from the twenty-eight guns deployed in our line; and despite the heroism of their leaders and the undeniable gallantry of the Sikh soldiers all attempts at advancing were promptly nipped in the bud. The action now resolved itself into an artillery duel, the Sikhs with their guns endeavouring to silence the fire of our well-served artillery preparatory to an advance on the thin line of infantry. But their training failed them in this crisis, and the Bengal artillery once more showed itself superior even to the Khalsa gunners with their French education. Our infantry during this duel were lying down and suffering but scanty loss. The fire of our guns, however, was superbly accurate, and in about a couple of hours had produced such an effect that the Sikh artillery gradually slackened, and then their fire ceased. Their infantry still held the ground in our front and Thackwell, summoning his Brigadiers, hastily held a consultation as to whether an immediate advance should be made on the dense jungle in our front, or whether the assault of the enemy's position should be deferred till the morrow when, reinforced by Godby's Brigade and perchance acting in conjunction with the Commander-in-Chief, an easy victory might well be anticipated.

Night was rapidly closing in; the country in our front was absolutely unknown beyond the fact that it was thickly covered with lofty sugar-cane, intersected by nullahs or watercourses, and dotted here and there with mud villages.

Pennycuick stoutly advocated an immediate advance; Colin Campbell, Eckford, and Hoggan counselled delay; and Thackwell, listening to the voice of reason, fell in with the views of the majority. It was well he did so; for as dawn broke on the 3rd December it was found that the Sikhs had evacuated their position in our immediate front and had fallen back in the direction of the River Jhelum.

Our losses in the action of Sadoolapore, as this little fight was called, amounted to 21 men and 33 horses killed, 4 officers and 51 men wounded.



SIR H. LAWRENCE.

The annoyance of Godby's brigade at finding itself shut out from any share in the action may be imagined. It was not until the morning of the 3rd December that his force, consisting of the 2nd Bengal European Regiment, the 45th and 70th Regiments of Native Infantry, effected their junction with Sir Joseph Thackwell.

Whilst Thackwell was prosecuting his flank march Lord Gough pushed his batteries close down to the left bank of the Chenaub in front of Ramnuggur and opened a heavy fire on the Sikh intrenchments. This had the effect of compelling the enemy to retire out of range of the river; but throughout the days of the 1st and 2nd an intermittent reply was maintained by the heavy guns of the enemy. On the 3rd December this also ceased; but Lord Gough apparently not divining that this silence was due to the fact of the Sikhs having moved off to oppose Thackwell, still kept up his bombardment of the deserted batteries; and it was not until he learnt from Sir Joseph of the victory at Sadoolapore and subsequent flight of the enemy that he took measures to transport his main body across the river.

On the morning of the 4th, Sir Walter Gilbert was directed to move to the right bank of the Chenaub with the 9th Lancers, 14th Light Dragoons, and three troops of Horse Artillery, under Lane, Fordyce, and Duncan, and join Thackwell in his pursuit of the enemy. That evening Gilbert overtook Thackwell's force at Jelalpore, a small village on the road some twelve miles from Ramnuggur, no signs of the enemy being then visible. On the morning of the 5th Sir Joseph reached Heylah and at once dispatched Major Hope Grant towards Jelalpore with his own corps, the 9th Lancers, the 5th Bengal Light Cavalry, and Huyse's troops of Bengal Horse Artillery. At the same time, Lieutenant-Colonel King, of the 14th Light Dragoons, took his own regiment and the 8th Bengal Light Cavalry to Dinghee. The infantry under Colin Campbell now moved up to Heylah where the force was joined by Lord Gough with the whole of the army on the 1st January 1849. On the 10th of the month Gough moved to Lussoorie with the main body of the army. Thackwell, with the 3rd Division and White's Brigade of Cavalry, occupied Heylah and Pope the Wazeerabad ford; whilst Penny was left behind at Ramnuggur to cover the bridge of boats thrown over the Chenaub at that spot by the Engineers under Baird Smith.

CASUALTIES AT SADOOLAPORE.

	KILLED.			WOUNDED.		
	Officers.	Men.	Horses.	Officers.	Men.	Horses.
3rd Light Dragoons ...	—	—	3	—	1	1
5th Bengal Light Cavalry ...	—	—	2	—	1	1
8th "	—	1	1	—	2	3
3rd Irregulars ...	—	3	11	1†	3	2
Bengal Artillery ...	—	—	3	1‡	5	2
24th Foot ...	—	2	—	—	4	—
61st Foot ...	—	2	—	—	9	—
22nd Bengal Native Infantry	—	1	—	1	2	—
25th "	1*	4	—	—	8	—
31st "	—	—	—	—	7	—
36th "	1*	1	—	1§	2	—
46th "	—	—	—	—	1	—
Total ...	2	14	20	4	45	9

* Native officers.

† Lieut. E. J. Watson.

‡ Lieut. A. Gibbons.

§ Lieut. Garston.

increased the dangers attendant on an assault. Gough, however, felt that to delay any longer in dealing with the formidable task of crushing Shere Singh (who, having moved up from Mooltan, had assumed command of the Sikh forces) would be construed into a sign of weakness and would lead many waverers to join the Khalsa standard. He accordingly determined on attacking the Sikhs without waiting for the reinforcements already on the march from Mooltan and Bombay; and, on the 13th January, Brigadier Pope having been called in from Wazeerabad and Penny having moved up from Ramnuggur, the army advanced in the order given in the accompanying sketch from Dinghee to Chillianwallah. The day was now far spent, and the Sikh position being easily discernible Gough sounded a halt and, after a consultation with his subordinate commanders, resolved on postponing his attack until the morrow.

But the Khalsa leaders were eager for a fight; and no sooner had our force stayed its advance than they, issuing from their position, subjected the British to a heavy fire from their artillery, whilst their infantry, drawn up in front on their intrenchments, shouted loud notes of defiance at the Feringhee red-coats. Our heavy guns responded to the Sikh challenge and the infantry, who had been permitted to fall out, rapidly formed up in order of battle.

Gough's original intention was to turn the enemy's left flank by Russoul, and so cut them off from their line of retreat to the Jhelum; but the intricate ravines which surrounded their position and the almost impenetrable jungle which covered the whole country forbade the execution of such a movement, even had the Sikhs tamely submitted to being outwitted a second time in a fortnight. As it was, they now forced Gough's hand and by good generalship compelled him to attack them under every disadvantage.

The lateness of the day, our ignorance of the country, the thickness of the jungle and, in some instances the incapacity of brigade commanders were all elements contributing to the failure of the day's operations. But Gough recked of none of these things. With the same undaunted bravery he had shown at Barossa, four decades previously, he determined to inflict on the Sikhs condign punishment for their temerity in thus interfering with his advance. He acted on his own unaided judgment. No further consultations were held with his subordinates; but the heavy guns were pushed to the front under the escort of some companies of the ever ill-fated 24th Foot, and the whole army slowly conformed to the movement.

A frontal attack on entrenched troops is always a dangerous undertaking; but a frontal attack on such men as Sikhs, in a country where the density of the bush forbids any military formation being rigidly

CHAPTER VIII.

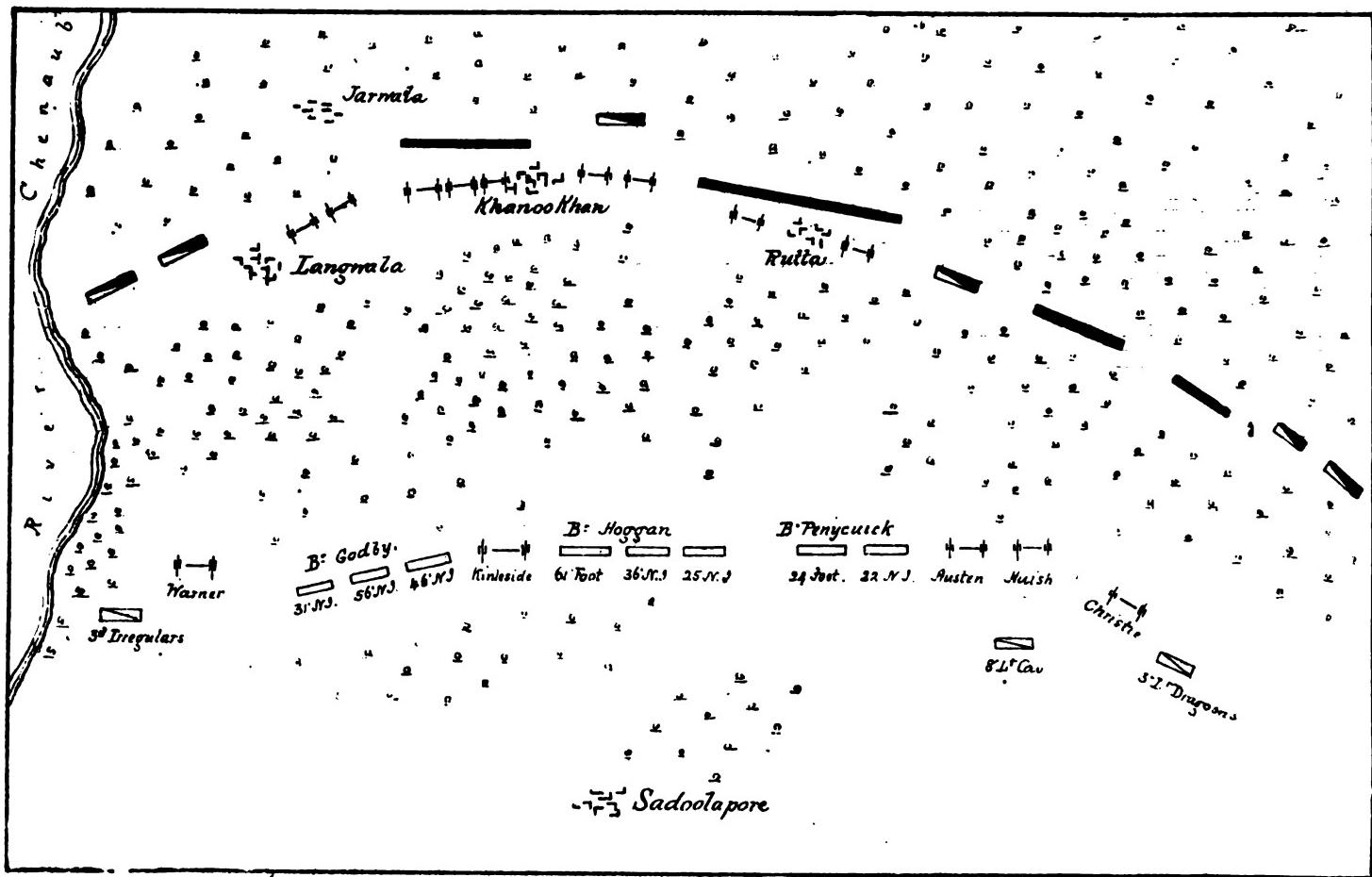
THE SECOND PUNJAUB CAMPAIGN.—CHILLIANWALLAH.

THE Sikhs in the meanwhile had concentrated their forces on the left bank of the Jhelum, their right resting on Moong, their left on Russoul. Thick jungle in the front added to the strength of their position and to the difficulties before us; whilst strong earthworks, in which were placed field-guns of heavy calibre, further

adhered to, was merely to court disaster. Still Gough, undaunted, pressed on. Campbell and Gilbert—men injured to war, and possessed of marvellous coolness and military decision—so regulated the advance of their infantry divisions that the fire of Horsford's heavy guns were never for an instant clouded. Pope, commanding the cavalry on the right, was not so fortunate. Bodily infirmity may have had much to say to the state of his mental powers; and, added to this, he received a wound early in the engagement: all combined to render him ill-fitted for the important rôle he should have played in the action. His cavalry edging away from the right, on

manner. The 9th Lancers were the first to rally and the timely charge of this gallant regiment saved Lane's troop; but all the guns of Major Christie's troop and two guns in that of Major Huyshe, fell into the power of the enemy. Lane with great presence of mind wheeled his battery to the right and by repeated discharges of case and grape succeeded in driving back the madly-intoxicated Goorchurras who were swarming down on our right flank and who, elated with their temporary success, fondly hoped they were about to complete the discomfiture of the hated Feringhee.

Whilst our right was thus seriously threatened, the



SADOOLOPORE—3RD DECEMBER 1848.

which flank they were threatened by large bodies of Sikh Horse, overlapped Grant's Horse Artillery Brigade and so compelled the eighteen guns composing it to cease firing. An unaccountable panic seized the 14th Light Dragoons who, despite the efforts of their officers to rally them, dashed wildly to the rear. This panic was communicated in a minor degree to the other regiments of the brigade; and the guns, left unsupported, fell into the power of the Sikh cavalry who, quickly seizing the opportunity thus offered, charged down on our right flank and, riding down the British troops, sabred them in the most merciless

forward movement of the army was never for a moment stopped. Godby's Brigade, on the extreme right of the infantry, pressed on with unabated vigour, the 2nd Bengal European Regiment (now the 2nd Battalion Munster Fusiliers) being nobly supported by the 81st Bengal Infantry and the 70th Native Infantry.

An officer who bore a gallant part in that day's doings, and whose name subsequently became a household word in England, thus described the part played by this brigade:—

"The word came for the infantry to advance. 'Fix bayonets! Load! Deploy into line! Form fours!

Right ! Quick march !' and just then came a roll of musketry that drove us almost to madness. Quick, march !' and into the jungle we plunged in line with a deafening cheer, the roll of musketry increasing every minute. On we went at a rapid double, dashing through the bushes and bounding over every impediment. Faster rolled the musketry—crash upon crash the cannon poured forth its deadly contents. On swept our brigade and, gaining an open space in the jungle, the whole of the enemy's line burst on our view.

"Charge !' ran the word through our ranks, and the men bounded forth, like angry bull-dogs, pouring in a murderous fire. The enemy's bullets whizzed above our heads : the very air seemed alive with them : man after man was struck down and rolled in the dust. But a passing glance was all we could give them. And onward we went bearing on their line with a steadiness which nothing could resist. They fired a last volley, wavered, and then turned and fled, leaving the ground covered with their dead and wounded. Pursuit in a jungle like that was useless, where we could not see twenty yards before us ; so we halted, and began to collect our wounded—when all of a sudden a fire was opened upon us from the rear. A large body of the enemy had turned our flank in the jungle, and got between us and the rest of the troops. Another party was on our left and we found ourselves with our light field battery completely surrounded and alone in the field. The word was given 'Right about face !' and we advanced, steadily loading and firing as we went. Captain Dawes' battery was the saving of us. As the cavalry were bearing down the Brigadier shouted, 'A shower of grape in there !' and every gun was turned on them, the men working as coolly as on parade, and a salvo was poured in that sent horse and man head over heels in heaps. If it had not been for that battery, we should have been cut up to a man. The fire was fearful ; the atmosphere seemed alive with balls. I can only compare it to a storm of hail. They rang above my head and ears so thick that I felt that if I put out my hand it would be taken off. A man was knocked over on either side of me and I expected every moment to be hit so incessant was the storm of balls. Our firing was beautiful ; every man was as steady as a rock and fired low and well. All the time the enemy were dodging about the bushes, banging away at us and then disappearing. At last General Gilbert rode up and said to Steel, 'Well, Major, how are you ? Do you think you are near enough to charge ?' 'By all means,' said Steel. 'Well, then, let's see how you can do it.'

"Men of the 2nd Europeans, prepare to charge. Charge !' and on we went with a stunning cheer. Poor Nightingale was shot in the head and fell at my feet. The Sikhs fought like devils singly, sword in hand and strove to break through our line. But it was no

go ; and after a short struggle we swept them before us and remained masters of the field. We took three of their guns in our second charge and spiked them on the ground. Our own loss is about seventy killed and wounded and our not having lost more may be attributed to the beautiful order we kept and the admirable way in which we were supported by Dawes' battery."

Mountain's brigade on Godby's immediate left played a no less heroic part, the two native corps the 30th and 56th, losing respectively 8 officers and 322 men and 11 officers and 285 men ; both regiments unfortunately temporarily lost their colours but never a word was breathed against the now derided Poorbeah who on this day showed himself every whit the equal of his British comrade.

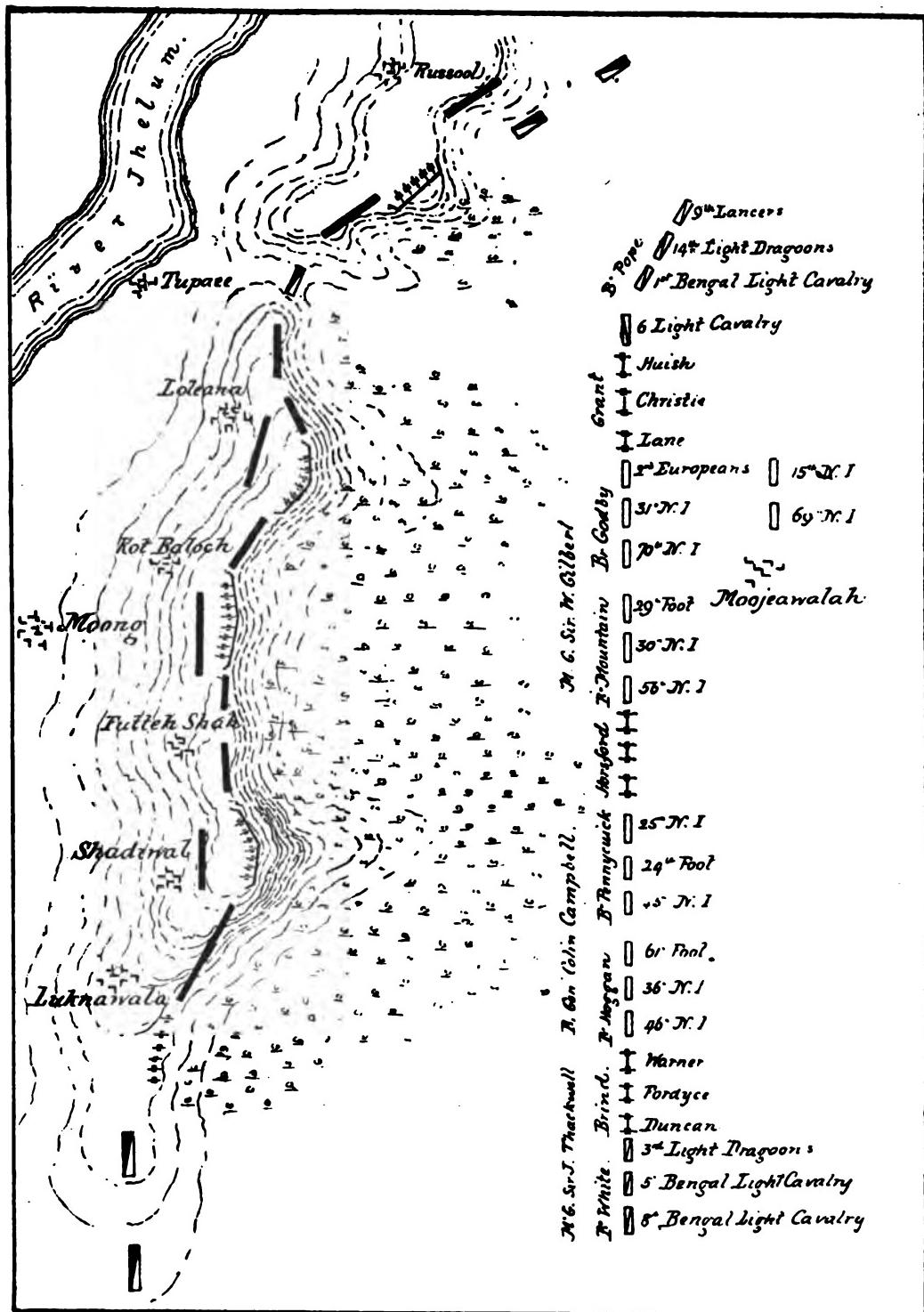
On Mountain's left stood Pennycuick's brigade, the 24th Foot, 25th and 45th Regiments of Native Infantry. Whether the death of the ill-fated brigadier affected the steadiness of the regiment he had commanded so long, or whether it arrived in some awe, breathless and broken in front of the Sikh entrenchments, it is impossible now to determine. Suffice it to say that their attack was repulsed and that the brigade fell back (having incurred terrible loss), under cover of a small party of the 45th Native Infantry. The 24th, though repulsed, were not disgraced, for 28 officers and close on 600 non-commissioned officers and men lay dead or wounded in front of the Sikh line.

Colin Campbell, who had assumed personal command of Hoggan's brigade on the extreme left of the line, seeing the discomfiture of Pennycuick's brigade, after capturing the guns in his immediate front, wheeled the 61st round to the right and, supporting it with the 35th and 45th Regiments of Native Infantry, speedily carried the work which had so rudely repulsed the gallant 24th.

To the left of Hoggan's Brigade was Michael White's Cavalry Brigade under the immediate command of Sir Joseph Thackwell. Large bodies of Sikhs made most persevering demonstrations in this direction. Colonel Brind with three troops of horse artillery was fully engaged in replying to the enemy's fire. So pertinacious did the enemy become that Thackwell ordered Unett with one squadron of the 3rd Light Dragoons, and three squadrons of the 5th Light Cavalry to charge them ; the 8th Light Cavalry and the remaining squadrons of the 3rd being held in support. "The Dragoons willingly obeyed the order and, under their gallant leader Captain Unett, dashed through the Sikh wedge ; the 5th Cavalry in spite of their officers came back in confusion and intense was our anxiety about the fate of the 3rd Light Dragoons. At length they emerged covered with glory ! Two officers were wounded, the gallant Unett and Stisted, and the loss amongst the men amounted to forty-six killed and wounded. Such gallantry deserves to be handed down to posterity."

Whilst Thackwell was preparing to complete the work commenced by Unett in throwing forward the remainder of the 8th Light Dragoons and the 8th Light Cavalry, peremptory orders arrived for Brind's Horse Artillery

the Sikhs to move forward to the attack once more, but the resolute attitude of Colin Campbell, who threw back the 61st to meet the fresh danger, checked the movement ere it was well initiated and enabled Gough to



CHILLIANWALLAH—18th JANUARY 1849.

guns to move round to the right flank, which had been sadly weakened by the repulse of Pope's cavalry and the capture of the guns in Christie's and Huyshe's Troops. The withdrawal of Brind's batteries tempted

withdraw White's cavalry from the left and to place it on his right flank in support of Pope's shattered regiments.

Night was now fast approaching. Our attack on more

than one point, more especially on the extreme right, and in the centre had failed, and unexpectedly the enemy had penetrated our line and inflicted heavy loss even on the rear of our battalions. To recommence operations at this late hour would have been rash in the extreme, "night was approaching, and the Sepoys were parched with thirst; the baggage was scattered and endangered and water procurable only at the line of villages in the rear and Lord Gough determined to concentrate his troops round the village of Chilian."

The British bivouac that night did not present the appearance of that of a victorious army. Groups of men belonging to different regiments, gunners of batteries whose pieces still remained in the hands of the enemy, dismounted dragoons and panic-stricken camp-followers, huddled together under the scanty camp-fires or crowded into the deserted houses of the little village of Chilian.

There were brave hearts there who looked on the check as but of little moment or, at any rate, who bore themselves as men who feared no evil. Lord Gough was first and foremost among them; moving from camp-fire to camp-fire, from bivouac to bivouac, he had a few words of cheery encouragement for the men, of hearty thanks for the officers. The 61st Foot and their gallant brigadier came in for a full meed of praise, and even the 14th Light Dragoons were treated as if their conduct had not contributed to the ill-success of the operations. There were many who feared a night attack, but Gough knew full well that the Sikhs, though not worsted, had been so roughly handled that they would have but little stomach for fighting for many a day to come; he therefore made no attempt to restore order amongst his scattered troops beyond directing Sir Joseph Thackwell, commanding the cavalry division, to place strong cavalry outposts before dawn, and to sweep the battle-field with a brigade in the early morning with a view of recovering if possible our lost guns. But the Sikhs had been beforehand with us in removing them, and our only trophies of the fight were twelve small cannon

captured by the infantry brigades of Colin Campbell. Alas, the Sikhs had more telling evidence of their prowess, six British guns, the colonels of the 24th Foot and of the 56th Native Infantry remained in Shere Singh's hands.

Our losses in the engagement were terrible. In the short space of two hours and a half 89 officers and 2,357 non-commissioned officers and men were killed or wounded.

Paralysed by such losses Gough was unable to advance or retire, and he busied himself immediately after the fight in strengthening his position at Chilian by field-works and entrenchments, while at the same time he despatched earnest messages to the Governor-General for all available reinforcements to be pushed up country with the utmost speed.

CASUALTIES AT CHILLIANWALLAH.

	KILLED.			WOUNDED.		
	Officers.*	Men.	Horses.	Officers.*	Men.	Horses.
Staff	3	—	—	5	—	—
3rd Light Dragoons ...	—	24	26	2	14	14
9th Lancers ...	—	4	4	—	8	5
14th Light Dragoons ...	1	3	6	1	14	2
1st Bengal Light Cavalry	—	5	8	1	3	7
5th "	—	6	7	3	13	7
6th "	3	4	8	2	8	—
8th "	—	8	2	—	2	1
Bengal Artillery ...	1	18	72	3	39	7
24th Foot ...	11	281	—	10	266	—
29th Foot ...	—	34	—	4	203	—
61st Foot ...	—	11	—	3	100	—
2nd Bengal Europeans ...	—	6	—	2	59	—
15th Native Infantry	—	8	—	4	44	—
25th "	7	105	—	5	87	—
30th "	3	64	—	18	200	—
31st "	—	3	—	1	14	—
36th "	1	27	—	8	69	—
45th "	—	20	—	5	54	—
46th "	—	3	—	3	48	—
56th "	6	77	—	12	227	—
69th "	—	4	—	2	61	—
70th "	2	3	—	—	20	—

* Including native officers

(To be continued.)



DR. G. DE LAVAL'S NEW BOAT.

COMMUNICATED BY COMMANDER ERROLL, R.N.

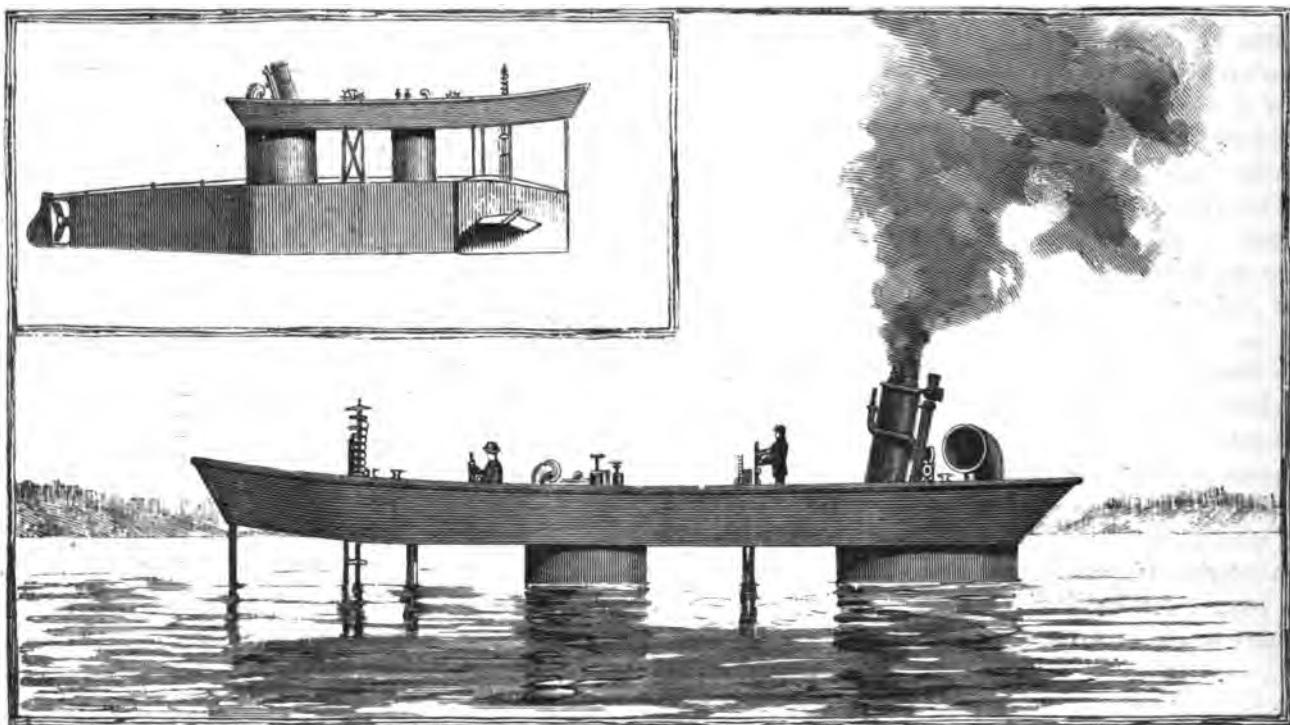


UR readers may feel interested in an account of our visit to Dr. De Laval's new boat which is now lying off the Ludvigsberg Iron Works on the southern shore of Lake Mälaren.

The boat is a combination of an ordinary launch and submarine vessel. It consists, in fact, of two boats of which the greater is under water and the lesser above. They are connected by iron girders and by two elongated oval iron funnels or casings, of which the aftermost is consider-

Passing through a passage on the starboard side, we reached the compartment before the boiler, a large and comparatively empty space. This is the result of the enlarging of the vessel, which took place last autumn, when she was lengthened 11 feet. In this compartment we saw some tubing and some small auxiliary engines, and also two large cisterns containing the naphtha, which is used for fuel.

From this compartment forward to the bow, outside the vessel, there is a rectangular casing. When the vessel is at rest, this is filled with water; but, on the



ably the greater and forms the means of communication between the two boats.

On making a voyage of discovery into the lower vessel, we were first confronted by the engine, a double-acting condensing machine on the Woolf system, of about 250 indicated horse power. It is similar to ordinary engines with perpendicular action except that the cranks are above the cylinders. It was made at the Southern Works and is of the best quality. The boiler, which comes from Germany, differs very much from the ordinary steamship boilers; it appears very small for the size of the engine but is said to be perfectly efficient.

machinery being set in motion, air is forced into the casing expelling the water and completely filling the casing from which it rushes out with great violence in the direction of the stern. This process has been given the name of *luftsmörjningen* (air-lubricating). Before this compartment there is another forming a beak, and in this are the large injectors, &c., which are used for forcing the air into the casing, and also the machinery which works the horizontal, or balance, rudders.

We then returned to the compartment abaft the boiler, where we found the injector or pulsometer for

supplying the naphtha to the furnaces. Our curiosity was excited by perceiving no appliances for regulating the machinery, but we were informed all this is done from above. The supply of water to the boiler, of naphtha to the furnace, the air injectors, the starting and stopping and the steering-gear, are all worked from the upper deck, in order that no one need be below when the vessel is under weigh. There is no saloon or berth to be found in this remarkable vessel.

We returned to the upper deck by a ladder that is certainly not adapted for ladies. Here we perceived right aft the gear for starting the engine ahead or astern. Aft the funnel are the means for regulating the injection of the naphtha; as also the safety-valve, which

is of an entirely new description, and promises by its simplicity and excellent efficiency to be very widely adopted in the future. Before the funnel is the steering wheel; further forward is the arrangement for regulating the air injectors; and still further, towards the bow, is another steering apparatus for the balance rudders.

The lower vessel is rather more than 60 feet long by 9 feet wide; the widest part is very far forward, and it tapers away finely towards the stern. The upper vessel is very similar in appearance to an ordinary steam pinnace, and is shorter and narrower than the under one.

NAVAL AND MILITARY NOTES AND QUERIES.

FEUDALISM IN ENGLAND.—The introduction of feudalism was one of the principal changes effected in England by the Norman Conquest. The King became the supreme lord of all the land; whence, Coke says, "All the lands and tenements in England in the hands of subjects are holden mediately or immediately of the King; for in the law of England we have not properly allodium." Even the Saxon landholders who were not deprived of their lands were brought under the system of feudal tenure, and were subjected to services and imports to which they were not before liable; but most of the manors were bestowed upon the Normans, who thus held them immediately of the King, and were hence called *Tenants in Capite* or *Tenants in Chief*. But though the Saxon thane was thus reduced to the condition of a simple freeholder, or franklin, and though the Norman lord perhaps retained a certain portion of his estates as demesne land, yet the latter had no possessory right in the whole, and the estate therefore was not so profitable to him as might at first sight appear. The tenant in chief was bound to *knight service*, or the obligation to maintain, forty days in the field, a certain number of cavaliers completely equipped, raised from his under-tenants. Even religious foundations and monasteries were liable to this service, the only exception being the tenure of *frankalmoign*, or free alms. Every estate of £20 yearly value was considered as a knight's fee, and was bound to furnish a soldier. The tenants in chief appear from Domesday Book to have amounted, in the reign of William the Conqueror, to

about 1,400, including the numerous monastic foundations. The number of *mesne* lords, or those holding fiefs not directly from the King, was about 8,000.

There were peculiarities in the feudal system of Normandy itself which were introduced by William into England. According to the general principle of feuds the oath of the vassal was due only to the lord of whom he immediately held. But William exacted the oath of fealty from all the landowners of England, as well those who held *in chief* as the under-tenants. In doing this he seems to have been guided by the custom of Normandy, where the Duke had immediate jurisdiction over all his subjects. Hence William's power was much greater than that of the feudal Sovereigns of the Continent, and the constitution approximated more to an autocracy. The great fiefs of England did not, like those of France, date their origin from a period when the power of the vassal who received them was almost equal to that of the Sovereigns who bestowed them; but being distributed on the same occasion, and almost at the same time, William took care not to make them so large as to be dangerous to himself; for which reason also the manors assigned to his followers were dispersed in different counties. Hence the nobles in England never attained that pitch of power which they possessed in Germany, France, and Spain; nor do we find them defying the Sovereign's jurisdiction as was very common in those countries by exercising the right of carrying on private wars among themselves.

ROBERT O'BYRNE.

"THE HAVERSACK."

[THE EDITOR will be glad to receive contributions from naval and military officers. The subjects should bear on matters connected with the two Services, and be illustrated if possible by the author. To facilitate their reproduction, drawings ought to be executed with ink as black as possible upon Bristol boards. The Editor will furnish detailed instructions on application.]

[To prevent mistakes, authors are requested to sign their names and addresses at the conclusion of the MSS. which they contribute.]

[The attention of readers is called to the military problem submitted for solution in the present issue; it is the first of a series which will appear monthly. All details will be found on p. 309].

ALL those who feel an interest in Ireland apart from the demagogues who trade upon her misfortunes will look with cheerful sympathy on the Irish Exhibition which is to be held at Olympia, South Kensington, this year under illustrious patronage. As will be seen from the list of the Executive Council the enterprise is entirely non-political: the name of Lord Charles Beresford figures beside that of Mr. Herbert Gladstone, Mr. Justin McCarthy's near the Marquis of Ormonde's. The most impartial and sagacious observers have long been of opinion that the woes of Ireland spring almost exclusively from economical causes: once make her people opulent and thriving, and political discontent will swiftly disappear. To this end the first thing requisite is the reign of law, which is gradually being restored by the present Unionist Government; the next step is to be initiated by the promoters of this Irish Exhibition: the development of Irish resources and the encouragement of Irish industry. No charge is as a rule to be made for space to exhibit, in order that the poorest producer may not be excluded from competition. Olympia with its latest display of wonders will be open to the public on the 4th June and remain so till the end of October. Among the attractions of the Exhibition will be an Irish village with *bona fide* natives working at their usual industries. Londoners will no doubt support this truly patriotic undertaking with their usual discrimination and generosity.

The spread of the temperance movement through the armies of Europe, including that of Russia, is a noteworthy sign of the times. Captain Stark, in a recent number of the *Military Magazine*, published at St. Petersburg, gives some interesting details on this subject, though he falls at times into grievous errors.

One of these is the statement that England alone among the nations neglects preventive measures for the repression of drunkenness in the army, and trusts entirely to force and punishment for the purpose. He goes on to say that the Germans pay their soldiers three times a month, with the restriction that those who are found to have spent more than their daily allowance between whilsts are put upon daily pay. But the British soldier is paid four times a month and though not subjected to a childish inspection of purses like his German cousin, is liable to be placed on daily pay for drunkenness. Captain Stark likewise recommends the establishment of tea-houses for the Russians, apparently in ignorance of the fact that the English soldier usually has a coffee-shop at his disposal. It is true that the writer acknowledges insufficient information about our army, a plea in which too many foreign writers might join; but the most superficial inquiry would have shown that nothing is omitted in this country which might lead to the suppression of vice in the army. Again, he attributes the terrible losses of Charles XII. in Russia to the intemperance of the Swedish soldiers, but the resources of the country were so thoroughly demolished in 1709 by Peter the Great's orders, that it seems problematical whether the invaders could have indulged in drink to any fatal extent. The intensity of the cold was quite sufficient to account for the fearful mortality which visited them. While on the subject of Sweden, it is interesting to note that the teetotal movement is now spreading widely in the ranks of the army, the example being set by the officers, without whose aid, the writer contends, no real progress can be made in the cause. Example is always better than precept, but especially in the practice of abstinence from alcohol.

THE *Journal de la Marine* states that the late Ministerial crisis in France has once more postponed the projected improvements in the ports of Cherbourg, Brest, and Toulon, which have been in contemplation ever since 1882. Unless, however, a fresh one occurs in the meantime it is hoped that the plans will, ere many days, be laid before the Council of Ministers by Admiral Krantz. The well-known breakwater at Cherbourg, originally planned by Vauban, forms, since the introduction of ironclads, an insufficient protection for the roadstead, which could be penetrated from outside, and the shipping destroyed by an enterprising enemy. It is, therefore, to be supplemented by the construction of three masonry jetties; one from the western end and

two from the east. Our contemporary adds that since the arsenal can always be bombarded at a distance of 4,000 or 5,000 metres from the breakwater, Cherbourg can never be more than a "port of observation." Brest, where a harbour of refuge is to be constructed, is more suitable for the refitment of ships. Hence the conclusion is drawn that a strong fleet is necessary for its protection, but long months must elapse before the requisite ships will be ready to put to sea.

We learn from the *Revue Militaire de l'Etranger* that the use of snow shoes is being extensively practised in the Finland battalions of the Russian army. In Sweden and Norway it is said that a man will travel fifty miles a day on snow shoes without uncommon fatigue; while, at a public competition held in the former country 150 miles were covered by the winner in twenty-one hours. Troops availing themselves of this method of locomotion have frequently rendered inestimable services in winter campaigns, especially in the extreme north of Europe.

MILITARY and naval officers returning from abroad with their families, and wishing to stay for a month during the season in town, are often debarred doing so because they must either go to one of the very large hotels, which are expensive, or for many reasons inconvenient, or they must take a furnished house, and hurriedly engage a suite of servants, about whom they know nothing. To meet this daily want, Captain Laing, of the P. and O. Company, some seventeen years ago started the Glendower Family Hotel, composed of four houses in the Harrington Road, and one in Glendower Place, South Kensington. The houses are well furnished, and the sanitary arrangements are excellent. The general plan of living is very similar to what is found at our leading hydropathic establishments, that is to say, there are a large number of public rooms, including reception, billiard, smoking, reading, drawing-room, with grand piano, &c. As there are usually from fifty to sixty visitors, concerts and dances constantly take place, and the *table d'hôte* meals bring people together. On the other hand, those who prefer to be more exclusive, can have their meals served at separate table in the coffee-room adjoining the *salle-à-manger*.

Families who wish still stricter privacy can have at a moderate charge suites of rooms, and come in and

out by a private entrance. The position for the pleasure seeker is unsurpassed; the walking distance to the parks, Kensington gardens, Albert Hall, South Kensington, and other museums, does not exceed in any instance eight minutes. The South Kensington Station is one minute's walk, from whence trains run to all parts of London and suburbs every three minutes. For the valetudinarian the position of the Glendower Hotel is regarded as one of the most healthy in London.

THE sustaining and stimulating properties of the Coca plant have long been recognized, and in the form of wine and fluid extract it is constantly prescribed by English physicians. Dr. Nachtigal, of Stuttgart, has prepared a Coca tobacco and Coca cigarettes, in which the tobacco is entirely deprived of nicotine. These two forms, when smoked, will be found to possess all the most valuable and agreeable properties of tobacco, plus the sustaining and enlivening effects of Coca. They will be found to be a preventative against nervous headache, catarrhal symptoms, and especially in asthma, and are highly recommended by medical authorities for these complaints. The Coca cigarettes and Coca tobacco are sold by the French Hygienic Society, 56 Conduit Street, Regent Street, W.

THE Foot-LEVER COPYING PRESS is very simple in action, and thoroughly efficient. It presents many advantages over the old-fashioned copying press. It is not liable to get out of order. It is a wonderful saving of time and trouble, and for general office purposes will be found specially useful, having everything ready at hand. There are receptacles for every requirement in copying letters; top shelf for letters to be copied, shelves for damping and oil, spaces for copying books, and drawers for loose sheets, &c., with the water-well and brush at the side; and the pressing is done with the foot in much less time and exertion than is required for the ordinary press. It also serves as a writing-desk, the top of the table being sloped for that purpose. The Foot-Lever Copying Press (Capel & Gaskill's patent) is attractive in appearance, and the price is moderate. There can be no question that these presses will gradually find their way into every military and naval office, both at home and abroad. They can be inspected at Messrs. Ladd & Co.'s offices, 116 Queen Victoria Street, E.C.

REVIEWS.

BOOKS OF REFERENCE :

1. *The Naval Annual*. By Lord BRASSEY, K.C.B. Second Year of Publication. (Griffin & Co., Portsmouth.)
2. *The Naval Year Book*. Edited by Rear-Admiral COLOMB. (London : William Clowes and Son, Limited.)

LAST year the first issue of Lord Brassey's *Naval Annual* was fully noticed in this magazine, and the impression left on the reviewer's mind was that the subject of naval reform had been exhaustively treated. Yet we find that the present number for 1887 has been to a great extent rewritten, the information has been brought up to date, it has been enlarged by over 200 pages of letter-press, the maps and plates are not only masterpieces of workmanship, but there are eight new illustrations of the latest types of war-vessels from clever sketches by Mr. Mitchell, the marine artist of Ryde. The Annual is divided into four sections with appendix; Lord Brassey contributing the first, which treats upon recent Naval Administration, the Navy Estimates for the Year 1887-88, the Manning of the Navy, Shipbuilding Policy, etc. etc. The second section, by Mr. F. K. Barnes, gives a detail of British and Foreign Armoured and Unarmoured Ships, with the latter arranged alphabetically and nationally. Captain Orde Browne (late R.A.) contributes the third section, on Gunnery, Armour, and Armour Experiments; and the concluding section, by Lieutenant Sleeman, late R.N., gives an account of the present condition of Submarine Warfare. It is impossible to speak too highly of this work, which by this time has doubtless found its way into every mess throughout the service. Lord Brassey has, with the most patriotic spirit, published at a very great expense to himself a most valuable book of reference on all naval matters; the section for which he is responsible is written without a trace of political partizanship, and in an attractive style that will obtain for the Annual a wide circle of readers among those who are interested in what concerns the British navy.

The *Naval Year Book* is a dictionary of naval history for the year 1887, arranged alphabetically. Trivial as well as important events are recorded, and considerable attention has been paid to personal records. Rear-Admiral Colomb is to be congratulated on having compiled a very useful book of reference.

The British Army: Its Regimental Records, Badges, Devices, &c. &c. By Major J. H. LAWRENCE-ARCHER, late 60th Rifles. (London : George Bell & Co., 1888.)

The publication of this ample tome suggests gratifying evidence of the ever increasing interest which is taken in the army throughout the length and breadth of the land. For, assuredly, in former years no publisher would have been found willing to incur the risk of giving it to the world, since its readers would have been limited to a strictly professional class. But now that the nation has begun to identify itself with its defenders, and that a considerable fraction of it, the Volunteers, may be said

to constitute an integral portion of them, we may safely predict that this work will not lack support from the general public.

As the title indicates and the author's preface informs us, it lays no higher claim than to be an abstract or epitome of the domestic records of the various regiments which form the British army, though manifold notes and glosses furnished by him seem to convey much original information. Thus we learn from these pages that the first ordinance for clothing the military in uniform occurs in the reign of Henry VIII., the colour enjoined being "white and sad green or russet." The Parliamentary troops were attired in "sober grey," while Monk's regiment were the first to don scarlet habiliments.

Although there are regiments which possess an earlier, if sometimes legendary, origin, the germs of the regular army must be sought in the exiled cavaliers who gathered around Charles II. at the Hague and, returning home with him at the Restoration, formed a troop of horse, who became, in their turn, the lineal ancestors of the 1st and 2nd Life Guards. The Grenadier Guards came into being in a similar way, while it is curious to note that the "Blues" and the Coldstream Guards formed part of the Parliamentary forces. In his reign the army included the above troops, with a regiment of dragoons and five battalions of the line, in all about 8,000 men. At the accession of James II. seventeen regiments were added to the army list in order to encounter the invasion of Monmouth, and were not disbanded after Sedgmoor, since they were required by the King for the furtherance of his absolutist intrigues. The first six regiments of Dragoon Guards were among them, also the Royal Fusiliers, the King's Liverpool Regiment and the Norfolk Regiment with others. Some of our oldest corps were raised to garrison Tangier, others for service in the pay of the Dutch Republic; but the senior regiment of the army in point of legendary antiquity is undoubtedly the "Buffs," who are said to have been raised, in the year 1572 by the London Guilds to assist the Dutch in their revolt against Philip II. The "Royal Scots," however, run them close, claiming as they do to represent Hepburn's Scottish regiment, who won the favour of Gustavus Adolphus in the Thirty Years' War. More regiments were added by James to his muster-rolls when the invasion of William of Orange was impending, and again their number was augmented on the accession of the latter monarch to assist in maintaining his authority in various parts of the three kingdoms. The Royal Irish Regiment claims descent from certain companies of pikemen appointed by Cromwell to form part of the "garrison" of Ireland. In Scotland, too, both sides of religious controversy have left their impress on our modern Army List: the Scots Greys were embodied to harry the Covenanters in 1678, and the "Cameronians," as the name indicates, inherit it from that persecuted fraternity, who, having taken arms in support of the "Lords of Convention" in 1688, were in the next year formed into twenty companies of sixty men each by decree of the Scottish Parliament.

A Missing Chapter of the Indian Mutiny. By Lieut-General C. L. SHOWERS. (London: Longmans, Green & Co., 1888.)

During the Indian Mutiny General Showers, the Political Resident at Oodeypore in Rajpootana, was able to keep the powerful Maharana, its sovereign, faithful to his allegiance and induced him to lend the active support of his military forces for its suppression. The general led them into the field, kept the district clear of rebels and took a prominent part in the operations which led to the capture of Tantia Topee in 1859. These services were of a distinguished order, and were enhanced by the credit of saving the fugitives, women and children, from the mutineers of Neemuch and the satisfaction of placing them in safety under the hospitable protection of the Maharana. But the despatches which recorded these feats were lost in transmission through the hands of his superior, Colonel George Lawrence, who had been his immediate predecessor at the Court of Oodeypore, and had reported unfavourably to Government regarding its sovereign. They did not, therefore, appear in the Parliamentary Blue Book on the subject. This was a strange coincidence, and a legitimate grievance for General Showers, who is not disposed to pass it over without remonstrance; thus the substance of his reports, copies of which he subsequently discovered, form the text of this "Missing Chapter" in the history of the great rebellion which shook our Empire in the East. It is pleasant and instructive reading. The writer possesses considerable powers of literary presentment, though a certain polemical tendency detracts a little from its general success. Colonel Malleson, among others, falls in for some hard words in large type at the end of the volume. He is dubbed with the tremendous epithet of a "prolific compositor," having already been broken on the wheel of "historic honour and truth," whatever that may be, by the writer. But let the romance of the fair Pudmani of Chittore, a theme we venture to recommend to modern novelists, make amends for this, as a graceful interlude amid the graver themes which elsewhere engage our attention.

The writer has long ago announced the opinion that Lord Dalhousie, by his "annexation policy," was primarily responsible for the Indian Mutiny; but the blame was shared by John Company, who endorsed his views and was condignly punished by political extinction at the hands of the Crown. He adduces a curious anecdote in support of the theory he affirms. Previous to the outbreak at Neemuch, Colonel Abbott caused the native officers of his brigade to swear fidelity to the British Government, after which he paraded the garrison, informed them of the circumstance, and called upon them to imitate the example. But a trooper stopt forward and demanded with exceeding insolence, "What are our officers' oaths to us, or even our own? Why should we keep our oaths to you who have broken yours? Have you not taken Oude?"

Under the heading "Whither?" questions touching the future of India are discussed which have recently been ventilated in the columns of the *Times*. The over-population, result of our benign and pacific rule, which trenches on the food supply, he makes light of. He has noticed plenty of unoccupied but fertile land in the course of his wanderings in Hindostan. Migration, not emigration, there as in Ireland he therefore

considers the true remedy for hopeless poverty. Perhaps made unduly confident by his success in Rajpootana, he advocates frank reliance on the fidelity of the native Potentates whose independence was guaranteed by the Queen's Proclamation in 1858. Finally, he recommends a liberal grant of civil and educational privileges to the people and anticipates no evil consequences therefrom. The Hindoo native is deeply imbued, he thinks, with the qualities of reverence and respect for authority, and when their old beliefs and superstitions are shattered by the progress of enlightenment, new ideals of nobler origin will arise to take their place. All this may prove true if no hasty legislation of the Ilbert type be tolerated. It is amusing to read that when the 72nd Highlanders reached Oodeypore in 1857, and were sumptuously entertained by its ruler, his minister remarked of the bagpipes: "It is the most exquisite music we ever heard. It is enough to charm a snake out of its hole." It is a pity there are not more snakes in Scotland to enjoy it.

How to Employ our Discharged Soldiers, and Popularize the Army. By HENRY NADLEY. (London: W. H. Allen & Co., 1888.)

This is a humorous appeal for the abolition of the civilian element at the War Office, which the author irreverently styles an "Army of Nincompoops," and for their supersession by a fresh staff selected by the most distinguished authorities on military matters we possess. He recommends by preference the deportation of its present tenants to "some distant lonely island," a man-of-war being placed on guard to prevent their escape; but, in case this measure should seem too drastic, he would award each and all of them a handsome pension on condition of their abstaining in future from all meddling with military affairs. John Bull is assured that the bargain will prove "cheap, dirt cheap in the long run." Though all comparisons in respect of expense between an army raised by conscription, and another, like our own, by voluntary enlistment, are necessarily fallacious, there is ample ground for believing the trite assertion that the British nation fails to get an equivalent for the millions which are yearly spent on its defences. Indeed the new budget distinctly affirms this contention and it has inaugurated an advance in the path of retrenchment, more especially as regards the navy. To remedy our present deficiencies the writer abstains from advocating conscription, but wishes to encourage voluntary enlistment by the provision of suitable employment for discharged soldiers: on the railway lines, in the post office, civil service, police and the fire brigade. Half-a-million men are, he believes, employed on these services, a moiety of whom might be reserve men without risk of inconvenience in time of war. Deferred pay he condemns unreservedly as tempting the soldier to take his discharge in order to enjoy a prolonged debauch on the proceeds. Whatever fault may be discovered in the literary style of this pamphlet, it undeniably deals with questions which are essential to the security of the nation. It is appropriately dedicated to Lord Randolph Churchill and concludes with a picture which portrays that versatile statesman in the act of menacing an army of fugitive officials with his uplifted boot.

SUMMARY OF ARTICLES IN FOREIGN SERVICE MAGAZINES.

REVUE DU CERCLE MILITAIRE—ARMÉES DE TERRE ET DE MER. (Paris: 37, Rue de la Bellechasse.) March 25th and 31st, April 8th and 15th, 1888.

Study on the Methods of Musketry Instruction for Infantry (*concluded*)—Military Industrial Establishments in Russia—Astronomical Photography—The Manœuvres at Verona in 1887—The Use of the Thorough-bred Horse for Cavalry—The Recruiting of the German Army—The Philippine Archipelago and Mindanao.

REVUE DE CAVALERIE. (Paris: Librairie Militaire Berger Levraut et Cie., 5, Rue des Beaux Arts.) March, 1888.

Independence and Responsibility—The Battle (*continued*)—The German Cavalry (*continued*)—The Three Colberts: Auguste de Colbert, by General Thoumas (*continued*).

JOURNAL DE LA MARINE. Le Yacht. (Paris: 50, Rue Saint Lazare.) March 24th and 31st, April 7th and 14th, 1888.

The Spanish Torpedo-boat *Azor*—The Launch of the Despatch-boat *Rance*—American Sloops and English Cutters—The Spanish Torpedo-boat *Barcelo*.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris: L. Baudoin et Cie., 30, Rue et Passage Dauphine.) March 30th, 1888.

The German Army Bill of 11th February 1881—The Reorganization of the English War Office—The Military Railway Service of Italy (*continued*).

REVUE D'INFANTERIE. (Paris: Henri Charles-Lavauzelle, 11, Place Saint-André-des-Arts.) April 1888.

The Present Condition of the French Infantry—German Strategy in 1870—Manœuvres—A New Form of Attack for Infantry—The Suez Canal and the Red Sea.

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTERN. (Cassel: Verlag von Theodor Fischer.) April 1888.

William the Great—The New German Army Bill: Its Cause and its Necessity—The Russo-Galician Frontier—Napoleon as a General (*continued*)—The Italian Red Sea Expedition, II.—Spanish Policy in Northern Africa.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin: Richard Wilhelmi.) April 1888.

The French Army in the Year 1813—The Landwehr and Landsturm of Germany and Austria—Hungary—The Second Battle of Plevna, on 11th July 1877: A Reply to General Paul Woronzoff—The Generalship of Frederick the Great—Military Punishment.

NEUE MILITAERISCHE BLÄTTER. (Potsdam: Villa Schwanenbrücke, Post: Klein Glienicke.) March and April 1888.

The Use of Iron and Steel in Fortification, III. and IV.—The Causes of Servian Defeats in 1885—The Development of the Shrapnel, III.—The French Soldier, II.—The Decline of the French Navy—The Battle of Borodino, 7th September 1812—The Campaign of the Great Elector Frederick William against the Swedes in 1675, IV.—Napoleon I. as a General—The Literary Mobilization—The Accident to the French Balloon *Arago*—The Present Organization and Strength of the Balkan Armies, III.

MITTHEILUNGEN UEBER GEGENSTAENDE DES ARTILLERIE- UND GENIE-WESENS. (Wien: Druck und Commissionsverlag von R. von Waldheim.) No. III. 1888.

The Italian Field Artillery *Matériel*—Experiments in Mining—Changes in the (Austrian) Engineer Equipment.

RIVISTA DI ARTIGLIERIA E GENIO. (Roma: Tipografia e Litografia del Comitato d'Artiglieria e Genio.) February 1888.

Repeating Fire-arms: Austrian Inventions—Proposed Carbine for African Service—The Zalinski Pneumatic Gun—The New Fortifications of the Meuse—The Lebel Rifle—The Smolianinoff Nitro-Glycerine Shell.

RIVISTA MILITARE ITALIANA. (Roma: Voghera Carlo, Via Nazionale.) March 1888.

The French and Italian Regulations for Infantry Fighting—Notes on Recruiting (*continued*)—Rapid Fire and its Rational Use—The French Jura and Vosges Frontiers—The French South-Eastern Frontier—The French North-Eastern Frontier—Italian Recruiting, 1886–1887.

ILLUSTRAZIONE MILITARE ITALIANA. (Milano: Via Santa Margherita, 9.) 1st April 1888.

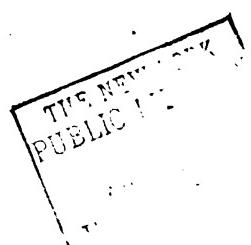
The Emperor Frederick III. of German—The German Army (*continued*)—The Camp of Observation at Saati.

ARMY AND NAVY JOURNAL. (New York: 240, Broadway.) March 17th, 24th, and 31st, 1888, April 7th, 1888.

Grant and Badeau—Mr. Steele's New (Army Reorganization) Bill—Our (the U.S.) Cruisers still without Guns.

ARMY AND NAVY REGISTER. (Washington: 1,420, Pennsylvania Avenue.) March 17th, 24th, 31st, April 7th, 1888.

The Senate Coast Defence Bill—Creusot Plates—Gun Manufacture in Russia.





CLEMENT-SMITH & CO LTD London & New York 1890

**ADMIRAL THE HON'BLE SIR HENRY KEPPEL, G.C.B.
ADMIRAL OF THE FLEET.**

THE
ILLUSTRATED
Naval and Military Magazine.

No. 48.

JUNE 1ST, 1888.

VOL. VIII.

NAVAL BIOGRAPHY.

ADMIRAL THE HON. SIR HENRY KEPPEL, G.C.B., ADMIRAL OF THE FLEET.



ITH one exception there is no name in the history of the British Navy better known than that of Keppel, and few, if any, have attained a higher or more popular position in the service than the subject of this memoir. Henry Keppel is the son of the fourth Earl of Albemarle, by his first wife, the Honourable Elizabeth, daughter of Edward, tenth Lord de Clifford, and was born on the 14th June 1809, at Earl's Court, Kensington. His eldest brother is the Earl of Albemarle, now in his ninetieth year—one of the few Waterloo veterans left, and the author of that delightful work *Fifty Years of My Life*.

At the early age of eleven Keppel was sent to the Naval College at Portsmouth, and during one of the vacations, when in Norfolk, he was introduced to Mr. Tom Coke, a descendant of the celebrated English judge, who, seating him in a chair, remarked, "My boy, that is the same chair that young Nelson sat in when he made his declaration for his half-pay as lieutenant," on that occasion telling him that Hoste was introduced to Nelson, and adding some kindly wishes that his career might be an honourable one. After passing two years at the Naval College he joined the *Tweed*, a 28-gun frigate under 500 tons, commanded by Captain Hunn, half-brother to the Prime Minister, Mr. Canning. He then sailed for the South American station, and while there made the acquaintance of the celebrated Lord Cochrane. As a midshipman, Keppel, when serving on the West India station, made his first prize-money by the capture of a slaver, and, afterwards, on the coast of Ireland, by the capture of some smugglers he secured his second prize-money. His next commission was under Lord John Churchill, at the Cape of

Good Hope, and while there he obtained his lieutenancy. He was then appointed lieutenant in the *Galatea*, under Captain Charles Napier, and for the second time visited the West Indies. In 1829 Lieutenant Keppel joined the *Magicienne*, Captain Plumridge, and was in command of a division of boats at the blockade of the "Mooran," during the war between the Honourable East India Company and the Rajah of Nanning. In order to successfully carry out his manœuvre, Lieutenant Keppel was forced to blockade the territory of the Rajah of Mowar. But with so much diplomacy and tact did he effect this, that the Rajah, instead of taking umbrage, proposed to John Company that Lieutenant Keppel should marry his daughter, and to cede his territory to the Company. It need hardly be added that the gallantry of the lieutenant was sorely perplexed by the unexpected offer. In 1833 he was appointed to the *Childers*, sixteen guns, and was employed on the South Coast of Spain during the Carlist War 1834-36, and afterwards on the West Coast of Africa. In those days there were no steamers and no regular mails, so that twelve months elapsed before Lieutenant Keppel heard that he had been gazetted to the rank of Commander.

On the various stations where Commander Keppel had served, he had attracted the notice of his superior officers by his smart and genial bearing, and his thorough knowledge of seamanship, which, together with his popularity with the crew and his brother officers, pointed to him as an officer who would attain distinction if the opportunity offered itself.

In 1837 Commander Keppel obtained the rank of Captain, and in 1841 was appointed to the *Dido*, which ship he commanded until the conclusion of the China War. Captain Keppel was present at the capture of Woosung,

Shanghae, and the operations in the Yang-tse-Kiang, in 1842 (gazetted 24th June 1842), China Medal. In 1843 and 1844, as senior officer at the Straits Settlement, Captain Keppel, in conjunction with Rajah Brooke, was actively employed on the Coast of Borneo, in the *Dido*, in the suppression of piracy. These pirates—these *hostes humani generis*—consisted of Malays and Dyaks. The piratical character of the former has never been disputed, it is their instinct. They were about 1,500 strong. The Dyaks of Serebas were composed of several thousand warriors, who became expert seamen under the Malays, and rowed and manœuvred their bankongs with the same dexterity as the Malays did their prahus. The propensity of the Dyaks was for collecting heads, and this cruel custom was regarded by the females of the tribes as evidence of chivalry and bravery when brought and laid at their feet. To check the piratical ravages of the Serebas and the pirates of Sakarran, Captain Keppel, conjointly with Rajah Brooke, in 1843 and 1844, invaded their countries in open boats, accompanied with the Sarawak followers, both Malays and Dyaks, who behaved with the greatest gallantry, which resulted in the capture of the stronghold of Patusen. This nest of pirates, 5,000 strong, was defended by four strong forts and several hundred boats. The expedition broke up the horde, scattering them and their chief, Sheriff Sahib, and capturing ninety guns. I must refer the reader for fuller particulars of this gallant exploit to Captain Keppel's work *The Expedition to Borneo of H.M.S. Dido*, in which he will find much interesting matter concerning sport and natural history, as well as several accounts of boat expeditions, which showed Captain Keppel to possess enough strength of mind to act on his own responsibility, and that he adapted his means to his work and made the most of them.

In England at the time the action of Captain Keppel and Rajah Brooke in suppressing piracy and protecting maritime enterprize was commented upon as being unjustifiable; some even going so far as to declare that piracy did not exist in those waters.

Mr. Joseph Hume, the member for Montrose, led the van, and read a document in the House of Commons, signed, in 1851, by fifty-three merchants of Singapore, condemning the exploits of Captain Keppel and Rajah Brooke. But the one-sidedness of the charge was exposed by a larger body of Singapore merchants, who expressed their regret at the conduct of their brethren, and concluded their address by writing. "Our experience, acquired during many years in the Archipelago, forces on us the conviction that neither commerce nor civilization can be extended while piracy in its present formidable extent exists." That piracy did exist to a very alarming degree received additional confirmation from Urban Vigor's account in the *Illustrated London News* of the 10th November 1849, and the legal proofs in the appen-

dix to Captain Keppel's book which has been alluded to. The justification of Captain Keppel's action is thus expressed by him—"A nation which, to its honour, will not tolerate an African slave trade with its concomitant horrors, can scarcely plead the principle of non-intervention when the scene of equal horror lies in her direct commercial path." The assertion of such a policy has contributed to build up and support the fabric of our Empire.

In 1847 when Captain of the *Mæander*, 44 guns, he conveyed Rajah Brooke as Governor to Labuan, but, owing to the accession of a Government which would not support Sir James Brooke, Captain Keppel was ordered in the first place to Port Essington, where an establishment of marines was maintained. He then served on the China station under Sir Francis Collier; subsequently visited the Australian and Pacific stations, and returned to England in 1851, having sailed round the world. Captain Keppel then published that interesting book of travel, *Visit to the Indian Archipelago in H.M.S. Mæander*. The *raison d'être* of its appearance was, no doubt, to vindicate his friend Sir James Brooke from calumny. It is satisfactory to find that Mr. Hume in his later years regarded Rajah Brooke's policy with greater leniency, if not with favour, and that the Baroness Burdett-Coutts, by her consistent support of this remarkable man—who combined originality, valour and prudence in a remarkable degree—obtained for him a distinguished and honourable position.

In 1853, on the outbreak of the Russian war, Sir Baldwin Walker, who designed the *St. Jean d'Acre*, 101 guns, selected Captain Keppel for the command. He conveyed to the Crimea Lord Rokeby, General Barnard, and 1,300 troops. In 1854 he served in the Baltic (Medal), and in 1855 in the Black Sea, and was present at the capture of Kertch. He then exchanged by mutual agreement with Captain King, of the *Rodney*, and served in the Naval Brigade before Sebastopol, under Captain Lushington and, when this officer was promoted to the rank of admiral, Captain Keppel obtained the command of the Naval Brigade, which appointment he held till the fall of Sebastopol. Dr. Russell, in his *British Expedition to the Crimea*, writes: "At the last bombardment of Sebastopol our Naval Brigade and Siege-Train maintained their customary 'hammering' at the face of the Redan and Malakoff, and aided our allies by shell practice on the batteries from the Creek to the Redan." Captain Keppel was for these services thrice mentioned, and thanked in General Orders (Crimean, Turkish and Sardinian medals, Sebastopol clasp, Commander of the Legion of Honour, Second Class of the Medjidie); C.B., 1856.

In September 1856 he hoisted his pennant as Commodore on board the *Raleigh*, and again went to China. This ship had acquired the name among sailors of "the

House of Lords," having on board Prince Victor of Hohenlohe, Viscount Gifford (now Earl of Clanwilliam), and midshipmen Lord Charles Scott, the Honourable Victor Montagu, H. F. Stephenson, and many others, who have since obtained distinction. Unfortunately, the *Raleigh* was lost on the Chinese station by striking on an unknown pointed rock about twenty miles from Macao. As she was sinking, the French Admiral in the *Virginie* frigate passed by, and Commodore Keppel ordered a salute to be fired in his honour. He was afterwards tried by court-martial, but acquitted, his sword being returned to him by the Honourable Charles Elliot, President of the Court.

Rear-Admiral Sir Michael Seymour then appointed him to the command of a division of boats, and Commodore Keppel led the boat attack at the destruction of the Chinese war flotilla in Fatshan Creek, 1st June 1857. His great experience in boat-fighting here stood him in good stead.

In August 1857 the *Times* wrote of Keppel : "He came upon the paddle-box of the *Hong-Kong* gunboat, which bore his pennant, and having with a quick glance noted the soundings, stood in between the Coromandel and the bank. There he was like a man thoroughly enjoying himself. His blue trousers tucked up to the top of his Russian boots, his white pith hat, his small active springy figure, his constitutional good-natured devil-may-care laugh ; there was a man who, without the least ostentation, was ready to go into any fire that gunpowder and iron could get up, and around him were men who were quite ready to follow him." The dash and brilliancy with which he led the boats in this memorable

fight in Fatshan Creek is matter of history. Rear-Admiral Sir Michael Seymour, in his despatch, wrote : "The fact that your galley was sunk under you, and that five out of six of her crew were killed or wounded, is the best proof that you maintained the post of honour throughout." On the 22nd of August 1857 he was created Rear-Admiral, when he returned to England, and on the 12th September 1857 was made a K.C.B.

In 1859 he was appointed Groom-in-Waiting to the Queen, and unsuccessfully sought to represent Portsmouth in Parliament. He was then appointed Commander-in-Chief at the Cape, and subsequently at the China and Indian stations. He returned to England in 1869, and was gazetted Admiral. In 1870 the University of Oxford conferred upon him the Honorary Degree of D.C.L. In 1871 he was made a G.C.B., and in 1872 he was appointed Commander-in-Chief at Devonport, having for his flag-lieutenant Lord Charles Beresford. In 1875 he became Admiral of the Fleet, and in 1878 was appointed first and principal Naval Aide-de-Camp to the Queen. On the 5th June 1879 Admiral Keppel retired from the service full of honours, having served in the Royal Navy for fifty-seven years with distinction in almost every memorable action in the Victorian era, and in nearly every part of the world.

Admiral Sir Henry Keppel carries with him into retirement the kindest wishes of every class of society and of Royalty itself. The reminiscences of his life, which it is hoped he will publish, would paint in detail all those stirring incidents which are merely outlined in this biographical sketch.

JAMES C. DICKINSON.



SUVÓROFF.

BY LIEUT.-COLONEL SPALDING, LATE ROYAL MUNSTER FUSILIERS

CHAPTER III.

FIRST TURKISH WAR.



THE progress of the war with the Turks, and the effect of the Muscovite triumphs in 1770 on the diplomacy of the European Powers having been already briefly narrated, it remains to sketch the course of events during the two years which immediately preceded the advent of Suvóroff to the seat of war. During 1771 nothing decisive occurred. The Russians, indeed, overran the Crimea, but lay inactive on the banks of the Danube. The splendid hopes to which their recent victories had given birth were doomed to partial disappointment; for the Turk made no overture for peace. Austria and Prussia, however, alarmed at the progress of the Russian arms, interposed, offering their "good offices"—the Empress would not hear of "intervention"—for paving the way to negotiations. After it had been agreed between the three northern Powers to sacrifice Poland in the interests of the European equilibrium, a congress assembled in 1772 at Fokshani in Wallachia, and again at Bucharest, but in both cases without results; the demand made by Russia for the liberation of the Crim Tartars from the suzerainty of the Porte proving an insuperable obstacle to successful negotiation. These nomads were wont to employ their leisure in harrying the southern provinces of Russia, carrying off immense numbers of slaves with rich booty, and occasionally reducing Moscow itself to ashes. Their subjugation was, therefore, a constant object of the policy of the Czars. Marshal Münnich overran their peninsula in 1768 without durable effect; and even after the crushing victories of 1770, two more ruinous campaigns were required to force the Sultan to abandon his rights over the Crimea.

In the beginning of 1773 Suvóroff, having joined head-quarters at Jassy, was appointed to a command in the division of Soltikoff. The Russian army, though barely 34,000 strong, nevertheless occupied the whole of Wallachia, and was extended in a thin cordon from Widdin to the Black Sea. It was thus distributed: Tekely's division, 3,000 strong, at Kraiova, in Little Wallachia; Soltikoff's, 12,000, between the Aluta and the Jalomnitza; Potemkin with 3,500 was at Brailoff; Weissmann occupied Ismail with a like number; while the Commander-in-Chief, Field-Marshall Rumántsoff,

lay at Jassy with a reserve of 12,000 men. It is clear from the above enumeration that, making suitable deduction for masking the strong places on the Danube and guarding the communications with Russia, no force could be assembled adequate for offensive operations beyond that river. Yet the Empress Catherine, whose usually sober judgment was perhaps warped on this occasion by recent stupendous successes, was continually urging her general to decisive action which should conquer a peace. She forgot that the army was now far distant from its base; that it had plunged into a difficult and inhospitable country already ravaged by the enemy; and that the line of the Danube, studded with its fortresses, presented an insuperable barrier to any but an army of great numerical strength. But peace was an absolute necessity; the plague was ravaging Moscow and the southern provinces of the empire; the Polish difficulty had not yet been solved; the attitude of Sweden was ambiguous; the Cossacks had revolted in the region of the Caspian, murdered their officers, and raised a commotion which, though suppressed for the moment, was soon, owing to want of troops, to break forth with renewed violence. Surrounded by such calamities as she was, we cannot wonder if the Empress demanded impossibilities from her generals. She wrote to Rumántsoff, in the classical slang of the day, "The Romans used to ask *where* was the enemy, not *how strong* he was," and at last so badgered him that he complied with her wishes against his better judgment.

There is no reason for believing that the talents of this commander were much above the common level. As Mr. Carlyle truly observes in *Frederick the Great*, "he saw considerably better than Galitzin," and, according to the Prussian monarch and strategist, "among the blind the one-eyed man is king." The victories of Larga and Kahul were apparently due to sheer courage and a happy tactical discovery. He found out how to beat the Turks by attacking them in square without awaiting the tremendous charges of their janissaries and horsemen. The Osmanli, it was now perceived, were only formidable in a wild onslaught; their disorderly masses were destitute of manœuvring power. Impressed with this conviction, Rumántsoff cast away the *chevaux de frise*, which had hitherto protected the Russian squares, and marched his masses boldly in the open against the

enemy. Success attended the novelty, but when it came to the scientific planning of a campaign the marshal showed himself to be weak in conception, even vacillating in execution, if we are to judge him by a modern standard. To preserve intact the laurels he had already gathered ever seemed the thought uppermost in his mind. The difficulties with which he had to contend were great; he was ill supported by his subordinates; yet he cannot be absolved from the charge of mediocrity. He was not the great commander Catherine conceived him to be. He acted on the faulty system of the age; scattered his troops over vast tracts of country, and, endeavouring to do everything, effected nothing. At the opening of the campaign of 1773, directing Weissmann's division to move along the right bank of the Danube while his own corps ascended the left, in order to distract the enemy he directed isolated attacks to be made along the whole line of the river from Turnu to Silistria. Major-General Potemkin (in after times the celebrated favourite of Catherine), seized Hirsova, a post favourably situated for covering the passage of the Danube, whilst Suvóroff was commissioned to effect a descent on the fortified town of Turtukay which, lying on the right bank of the stream, was garrisoned by about 4,000 choice Ottoman troops.

With a view to carrying out these instructions Suvóroff took post at Nigoyeshti, an ill-fortified convent on the banks of the Arjish, a stream which discharges into the Danube opposite Turtukay. The structure lay fourteen miles distant from the great river, and midway between them is the better known village of Oltenitza. The Danube at Turtukay flows in a channel some 600 yards in breadth between banks both high and steep. The detachment at Nigoyeshti under Suvóroff's command was over 2,000 strong, of whom 600 were cavalry, with seven guns. He chose for embarkation purposes a point on the Danube somewhat lower down than the mouth of the Arjish, and his boats, which lay off Nigoyeshti, were to have been floated thither *via* the mouth of the smaller stream. But the Turks having moored an armed vessel so as to command its mouth, no course remained open but to transport the boats across country in ox-waggons. The vehicles and cattle requisite having been collected, Suvóroff was preceding them at the head of his troops, on the 20th May, by Oltenitza toward the place of embarkation, when he was suddenly assailed by 900 Turkish Spahis, whose landing had been unperceived. Instantly directing his reserve column to make a circuit to the left under cover of a wood, in order to take the enemy in flank and rear, he charged when he deemed this movement effected, chasing the astonished Spahis in confusion to the water's edge. By nightfall it was observed that the armed vessel had been withdrawn from the mouth of the Arjish (possibly employed in rescuing the drowning Spahis), and the Russian boats were in

consequence transported to their destination by water without molestation.

Five hundred picked infantry, and 200 horse were employed in the nocturnal descent which followed. Suvóroff, on reaching the enemy's bank, formed his infantry in three squares, one of which with the whole cavalry he held in reserve. Preceded by a line of skirmishers, they charged the batteries in their front and in the confusion of a night attack carried them with but trifling loss. The town itself was next assaulted, captured and committed to the flames. At four in the morning, Suvóroff could write on a scrap of paper (which has since been discovered) to Soltikoff: "Your



FIELD-MARSHAL COUNT RUMÁNTSOV.

Excellency, we have conquered. Glory to God! Glory to you! Alexander Suvóroff." Six hundred and eighty-three Greek and Armenian Christians were collected for removal to the opposite bank for fear of Moslem vengeance. The Turkish flotilla, consisting of 51 craft of various kinds, was burnt and at 7 in the morning the victors with loud songs of triumph re-embarked and gained the Wallachian shore. The *coup-de-main* had been arranged with extreme care by Suvóroff; his preliminary instructions embracing the minutest details. One paragraph must be quoted as an illustration of his mode of warfare which has been so much misrepresented from a humane point of view:—

"Be careful not to injure women, children, and the inhabitants, even if Turks, provided they do not carry

arms ; likewise spare the mosques and the clergy, that our own holy places may be spared in turn."

Considered tactically, the occasion was important. It is said to be the first on which columns of attack, backed by a proper reserve of one-third the total strength and covered by a line of skirmishers, were employed—a system of tactics commonly attributed to a somewhat later period. Hence arises the interesting inquiry : To what extent did Suvóroff anticipate the revolutions in military art initiated by the first of modern captains ? It is certainly remarkable that the Poles criticised his manœuvres in terms similar to those in which the Austrians censured Bonaparte during his Italian campaigns. "Suvóroff," they complained, "is only fit to fight bears. If you expect him in front he attacks you in flank or rear. We fled more from surprise and alarm than because we were beaten." Again, Dumouriez, in his *Memoirs*, labours hard to prove that, according to all the rules of the military art, Suvóroff ought to have been beaten at Landskron.

Turning once more to the main Russian army, Weissmann on the 3rd June crossed the Danube at Ismail and on the 7th defeated 12,000 Turks at Karassu (Bulgarian, Chernavoda, i.e. Blackwater). On the 23rd he protected the passage of Rumántsoff's corps a little below Silistria, whither Osman Pasha had retreated with 30,000 men, intrenching himself in advance of the city, with his right resting on the hills and his left on the stream. The slopes of these eminences being thickly covered with vines and other obstacles, formed in conjunction with the Danube a defile extremely formidable for an assailant. On the 29th Rumántsoff delivered the assault ; the Turkish right was broken by the intrepid Weissmann, the favourite hero of the army ; but the left, supported by a vigorous sortie from the town, gained a decided advantage over the Russians, who were constrained to retire. In the heat of the engagement a mass of Turkish cavalry, coming from the direction of Shumla, burst into the Russian camp, and threw everything into the direst confusion, till Potemkin, arriving with the reserve, repelled them. They were the advanced guard of Nuuman Pasha who, at the head of 20,000 men, was hastening from Shumla with the intention of cutting the Russians off from the Danube. Rumántsoff upon this (1st July) abandoning the offensive, decamped from before Silistria despairing of success ; but the course he should have adopted was plainly indicated by a subordinate's success. For the better protection of his flank he had detached Weissmann with 4,000 men against Nuuman, who had by this time reached the village of Kutchuk Kainardji, near Silistria, with his army. On the 3rd July that Pasha was attacked and totally defeated by the heroic Weissmann who however purchased victory with the loss, of his valuable life. After this victory Rumántsoff might

have securely resumed his attack on Silistria, but, continuing his retreat beyond the Danube, he alleged, as an excuse for his lack of enterprise, the scarcity of forage and the consequent exhaustion of the horses of his cavalry. Thus ended a campaign which earned for the general in command the high-sounding title of Zadunaiski (Trans-Danubian).

While these operations were in progress a second descent on Turtukay had been effected by Suvóroff. Soltikoff had been directed to transport his corps across the Danube in order to create a diversion in favour of Rumántsoff's operations near Silistria, but that commander, either grossly incapable or grossly insubordinate, failed to comply with the instructions of his chief. He preferred to hurl Suvóroff once more with his detachment against Turtukay.*

On this occasion, 28th June, he disposed of 2,500 men of all arms. Of these 1,700 were regular infantry, 320 dragoons, or dismounted cavalry trained to the use of the musket, 180 regular cavalry, and 360 Cossacks and Arnauts. The expedition crossed in three detachments, the brunt of the fighting falling upon the first. It consisted of picked troops formed into three columns, one of which, under Major Rehbock, at once stormed the great redoubt which formed the key of the Turkish position. The struggle was protracted, murderous and long doubtful, because of the inaction of the remaining columns which, instead of supporting the troops engaged, halted on an eminence in expectation of the second detachment from the opposite bank—conduct which was near ruining the enterprise. Suvóroff was still on the left bank, so ill and feeble from recent attacks of fever that he had to be supported on either side by a soldier, while an aide-de-camp repeated in a loud tone of voice the whispered orders of his chief. Observing that the supports failed to reinforce the attacking column, he threw himself hastily into a boat and crossed in company with the second detachment. But fortunately by the time he arrived on the scene of combat Rehbock had succeeded in capturing the formidable redoubt. Thereupon Suvóroff, conducting his forces over its parapets, posted them beyond, in a line of columns facing the Turkish camp. The Osmanli, headed by Sary Mehemed Pasha, a man conspicuous by his size, beauty and valour, dashed out with tremendous yells to the attack, but disheartened by the fall of their leader who was pierced by a Cossack lance, they finally turned and fled, with a loss in men and material amounting to not less than 1,000 men and 15 guns. When the Russians returned to their own side of the river, they carried with them the corpse of the slain Pasha, which was indeed interred with due military pomp ; but the Turks deem it disgraceful to abandon the body of a chief to the

* Suvóroff once said: "Kámenski knows war ; war knows me ; but neither does Soltikoff know war, nor war him."

enemy. Suvóroff reported his victory to Soltikoff in these words : " Dear Sir, Count John, son of Peter, we realised yesterday the *Veni, vidi, vici*, and for me it was a fine experience. I am Your Excellency's humble servant. I am a straightforward man, but get me as soon as you can the Second Class " (St. George). Suvóroff's almost childish fondness for badges and external symbols of distinction was a foible which, had it not been accompanied by the love of real greatness, would have appeared mean and despicable. In later days he used to carry his innumerable decorations with him into the field ; would cause them to be laid out before him during leisure moments, and would gaze on them with concentrated rapture. He wrote again to Soltikoff on the same subject : " At any rate, shall I obtain the coveted reward ? Do not forget me, dear Sir. The race for laurels is uncertain. Sometimes one breaks one's neck, like Weissmann. But even that is good, if with honour and usefulness. But what is not so may be such as I ; and what is good, that may I not be "—the last phrase being worthy of himself, an enigma like him who penned it. He obtained the object of his desires.

About this time he was severely injured by a fall down the steps of the Convent of Nigoyeshti, an accident which laid him up at Bucharest for the space of two months. On recovery he was transferred from Soltikoff's division to the command of the important fortified post of Hirsova, on the right bank of the Danube, where, on the 4th September, he was assailed by a body of Turks 11,000 strong. The garrison consisted of four regiments of foot, about 2,000 men ; three squadrons of Hussars, and a troop of Cossacks, in all about 500 horses. He posted the two strongest of his infantry battalions with the whole of the cavalry in ambush on an islet of the Danube ; they were concealed from the enemy by the rising ground, on which lay the Russian camp, and the islet itself was connected with the mainland by a pontoon bridge. The Turks appeared next morning and, under the supervision of French officers, formed a regular order of battle in three lines instead of rushing pell-mell to the attack as formerly. Suvóroff was much amused. " See," he exclaimed, with a burst of laughter, " the barbarians are going to fight us in rank and file ! So much for the worse for them ! " Then throwing forward his Cossacks he endeavoured to draw the enemy on to an assault. The artifice succeeded, though the engineer was nearly hoist with his own petard. Their cavalry charged with such uncommon speed that they almost captured Suvóroff himself. There was just time left for him to spring over the *chevaux de frise* by which the camp was protected. The foot, closely following the horse, were on the point of gaining its interior, when they were assaulted in flank and rear by the troops in ambuscade on the islet and put to flight with heavy loss.

This action was the only instance in which Suvóroff fought on the defensive—but it was a judicious defensive which relied on the counter-stroke for victory.

Suvóroff, suffering much from repeated attacks of fever, was now compelled to seek rest and relaxation in Russia. He passed the winter at Kieff, while Rumántsoff in obedience to the remonstrances of the Empress once more assumed the offensive. When early winter had dispersed the Turks to their homes, he organized a second invasion of Bulgaria, but its conception and execution was so feeble as to inspire doubt whether anything more was intended than ostensible compliance with the Imperial will. While Potemkin and Soltikoff threatened Silistra and Rustchuk, Ungern, the successor of Weissmann, was pushed forward with 3,000 men from Babadagh ; Dolgoruki was thrown across the Danube at Hirsova with 5,000, while both were directed to move on Shumla, where the Grand Visir was posted with that portion of the Turkish army which



MEDAL FOR BATTLE OF KARUL.

still remained present with the colours. Their junction was effected at Karamurad on the 27th October, when 10,000 Turks who had taken post at Chernavoda retired hastily to Bazardjik at their approach. On the 30th the Russian corps reached the latter town, but divided counsels and the insubordinate spirit which was rife among the Russians produced their usual results. Unable to agree upon a plan of common action the two leaders separated, thus subdividing a force which, even when united, was unequal to the task assigned to it—Dolgoruki marched on Shumla, Ungern on Varna. Reaching Varna on the 4th November, Ungern attempted to carry it by storm, but discovered, though not till the troops were on the edge of the counterscarp, that they were unprovided with ladders and fascines. After keeping them in this position under a destructive fire for a considerable time with stupid obstinacy, he at length withdrew, and, disgusted with failure, abandoned Dolgoruki to his fate, returning to Ismail by the shores of

the Black Sea. The other, left thus isolated in the midst of Bulgaria, loudly complaining of the treachery of Ungern sought refuge behind the Danube in his turn.

The campaign of 1774 began with loftier hopes. Partly owing to the more promising aspect of affairs in Poland, and partly through the pressure brought by Frederic of Prussia to bear on his aspiring nephew, Gustavus of Sweden, Catherine was able to raise her Danubian army to the strength of 50,000 men. Peace was now more than ever an object of solicitude for the Czarina, since the Cossacks had risen again under the notorious Pugatchoff who, giving himself out for the late Czar Peter III., aimed at nothing less than the subversion of the Imperial government. Owing to the interior of the empire being denuded of troops, the disturbance rapidly extended in area, and with its accompaniments of blood, murder, and rapine seemed steadily approaching the capital itself. Peace extorted at the point of the bayonet was once more demanded of Rumántsoff, who consequently planned a series of operations beyond the Danube which, if not more skilfully conceived than their predecessors, were at least crowned with success. Once again the bulk of his army was disseminated along the northern bank of that river, while not more than 14,000 were concentrated for the decisive blow against Shumla. Kámenski, who commanded them, crossed the Danube on the 1st June at the head of 8,000 men, and moved on Bazardjik, there to await Suvóroff, who, having crossed the Danube at Hirsova with 6,000 men, lay encamped at no great distance from Silistria. But, though instructed to join his senior by the shortest road and with the least of possible delay, our hero manifested no eagerness to obey. On the contrary, jealousy, personal antipathy, perhaps mere "cantankerousness," combined to arrest his march till a peremptory order from head-quarters aroused him from apathy and conducted him to Bazardjik, where he arrived on the 19th of the month. Three days later the united Russian forces moved on Shumla and, plunging into the great forest of Deli Orman by the mere bridle-path which at that period traversed its depths, had proceeded no great distance when their advance guard came into contact with the enemy who, breaking up from Shumla on the same day that their opponents quitted Bazardjik, were marching swiftly on Hirsova. A "chance-encounter" was the result—the battle of Kosludji, which decided the fate of the campaign.

The Russian advance, composed of cavalry, was already driven from the wood by the excellent Albanian infantry which headed the Turkish columns, when Suvóroff, flying to the rescue with two battalions of infantry, forced the victors once more to seek its shelter. Then, dashing along the narrow track, where four horsemen at most could move abreast, he fought his way steadily

through the forest, his infantry being formed in a close column with a front of six men. Two thousand Arnauts in the pay of Russia threw themselves as skirmishers to his right and left, but he would not permit the regulars to engage in the wood, where disciplined valour would not have told with due effect. The advance was slow, being much obstructed by the waggons which, the enemy having killed the oxen, obstructed the path; but, after plodding five miles, the Russians at length emerged into the open and descried the Ottoman army drawn up on an eminence in their front. The heat was stifling. Many Russian soldiers dropped dead in the ranks; though a smart shower of rain which fell refreshed and invigorated them, while it incommoded the Osmanlis in their flimsy apparel, and wetted their ammunition which was carried in cloth bags instead of leathern pouches.

Suvóroff issued from the forest at the head of his column, and without stopping to consult Kámensky, who indeed was far away to the rear, at once prepared for action. He had with him about 10,000 of the 14,000 men who marched under Kámenski's orders. The strength of the Turks has been variously estimated.* Forming his infantry in a line of contiguous squares with the cavalry on either flank, he advanced rapidly on the enemy's position, and a struggle, deadly and protracted, commenced. The Janissaries repeatedly burst sabre in hand into the interior of the Russian squares, but were immediately bayoneted by the reserves stationed inside. The line of squares steadily though slowly advanced; the furious energy of the Osmanli by degrees abated; disciplined valour prevailed and the position was won. On reaching the summit of the captured heights, the Russian chief, looking down their reverse slopes, beheld the small town of Kosludji at his feet, and hard by the immense mass of tents and baggage, the vast concourse of animals and hangers-on which constituted a Turkish camp. Panic and confusion there held undisputed sway, as Suvóroff, posting a battery of ten guns at a convenient spot, turned their fire on the struggling mass below. A terrible commotion and headlong rush to the rear followed upon the whizz of the first cannon-shot. Casting away their weapons the Moslems scattered to all points of the compass, threatening destruction to all who attempted to rally them. The foot shot the cavalry to get possession of their horses, and the whole army melted into a cloud of fugitives, which vanished from sight as if scattered by a whirlwind. Camp and baggage with thirty guns and eighty standards were the spoil of the victors, while 3,000 Turkish dead lay on the blood-stained field.

* Von Hammer (*Gesch. des Osman-Reichs*) reckons their numbers at 25,000, other authorities as high as 40,000. All estimates of Turkish armies are, however, little more than guess-work.

So rapid had been Suvóroff's movements that Kámenski's division did not arrive on the field of battle till the ensuing day, when a warm altercation arose between the two generals. Suvóroff had again won a great victory without orders, while Kámenski, in his official report, magnanimously abstained from details, and was congratulated in consequence by the Commander-in-Chief for the ability he had displayed and the triumph he had obtained. Rumántsoff however could not have acted otherwise without a breach of both etiquette and discipline. If an officer act without orders, or in contravention of them, he should be

thus lightly. But Suvóroff was already firmly established in the imperial favour, and extreme measures were unadvisable. Granted leave of absence on account of sickness, he returned to Russia, where he found his services already in request.

Kámenski, on the other hand, sitting down with his small army before Shumla, cut the garrison from all communication with the Balkans. Want was in consequence soon experienced within its lines which, not being completely invested, the garrison deserted in great numbers. Reduced to extremity, the Grand Visir sued for peace, and on the 21st July 1774 the



THE BATTLE OF HIRSOVA (FROM AN OLD PRINT).

prepared for professional ruin in case of disaster, in that of success, to see his laurels appropriated by his military superior. Suvóroff's philosophy was not equal to the strain thus put upon it. Wounded vanity, personal antipathy and exorbitant ambition combined to goad him into an act which in a military sense was crime. Deserting his post he appeared at Bucharest in the presence of the amazed and indignant Rumántsoff, who had already received Kámenski's report. A severe reprimand was the result, and few would have escaped

treaty of Kutchuk Kainardji was signed near the spot where a few months before Weissmann had expired in the arms of victory. The Porte recognized the independence of the Crim and Kuban Tartars, and ceded Kinburn, Azoff, Kertch and Yenikale to Russia, who likewise acquired the right of navigating the Black Sea together with a species of protectorate over the Christians of the Balkan Peninsula.

CHAPTER IV.

STEPPE WARFARE.

THE Cossack Púgatchoff,* like Suvóroff himself and the Empress Catherine, was born in the year 1729. Having served with credit in Prussia and Poland, he had risen to the rank of captain. Restless and turbulent by disposition, he was perpetually inciting the Cossacks to mischief, and was in consequence deported to Siberia, whence he effected his escape. He is said really to have resembled the Czar Peter III. in person, though more probably his military experience had rendered him acceptable to the Cossacks as their leader. In 1773 at the head of 800 followers he proclaimed himself Czar, and ascended the Ural river with a band which at length reached the formidable total of 30,000 men. Storming the military posts which obstructed his path, he hung the officers but enrolled the men of the different garrisons in his service. Nothing availed to arrest his progress till he reached Orenburg, to which he was obliged to lay formal siege. The nomad population of the Steppe—among them many of the sect called “Old Believers,” who feared that Government were about to deprive them of their beards—joined the standard of revolt. Incapable generals were sent with inadequate forces to suppress the movement till, after several disasters, Catherine, at length aroused to the gravity of crisis, despatched Bibikoff to the seat of the disturbance. That general, recently arrived from Poland, having fixed his head-quarters at Kazan, adopted measures which would have put a speedy termination to the rebellion had fate so willed it. The towns of Orenburg and Ufa were relieved; Púgatchoff was beaten and chased beyond the steppe as far as the Tobol river. Bibikoff however died at this crisis and was succeeded by an officer of inferior capacity. Pugatchoff, pursued by a weak detachment, made his way to the foundries of the Ural mountains where, seizing the treasure of Government, he caused ordnance to be cast for his own use. Thence marching on Kazan he spread devastation and ruin around his path, putting to death all who refused to join his standard. Paul Potemkin, cousin of the celebrated favourite, commanded in that city, and retired into the Kremlin (or citadel) on his approach, leaving the surrounding habitations to be sacked and burnt. The rebel next moved with his murderous hordes on Moscow. During the march the mansions of the nobles were demolished, their owners hanged and the serfs set at liberty. Though the Empress exchanged jests with Voltaire on the subject, dismay dwelt in her heart. The foundations of social order and the fabric of her government seemed about to disappear in the vortex of successful revolt. A dreadful reckoning might seem at hand for her complicity in the crime which

* Pushkin, *History of Pugatchoff's Rebellion.*

had seated her on a throne. Michelson however succeeded in checking the rebel's advance at Arzamass, and eventually drove him in confusion beyond the Volga. His hordes retreated, laying in ashes the flourishing cities of Penza and Sarátoff as they went but, closely followed by their indefatigable pursuer, they were finally routed at Tsaritzin and thrust across the Volga deep into the Ural Steppe.

Catherine, when the rebels were approaching her capital, had announced the resolution of placing herself in person at the head of her forces.* Dissuaded from this step by the Minister Panin, she appointed to the command his younger brother Peter, who asked and obtained the services of Suvóroff as his coadjutor. The latter, summoned to Moscow post haste, proceeded forthwith to Sarátoff on the Volga, where he arrived on the 24th August 1774. During the sack of that town by Púgatchoff every serviceable horse had been swept off by the rebels, and Suvóroff had consequently to embark his escort on the Volga, while with his staff he followed the course of the river mounted on the few animals they possessed. In this way they reached Tsaritzin, the scene of the encounter in which Pugatchoff had just been worsted. The malefactor had plunged into the Ural Steppe and Suvóroff, desirous of making a name by capturing so capital a rogue, collected a flying squadron and started in pursuit. It consisted of some 700 horse, among whom were 300 mounted infantry; for Suvóroff's mind being of a practical turn he was in the habit of making horse and foot interchangeable. The Ural Steppe, part of the ancient bed of the Caspian, being a wide expanse of shell-covered sand, broken here and there by marshes and stagnant lakes of salt water, all supplies necessarily accompanied the expedition which, under Suvóroff's guidance, moved with inconceivable rapidity. After crossing the barren Steppe a wooded district presented itself, the valley of the Great and Little Usen rivers, where he learnt that a few days previously Púgatchoff had been seized by his own Cossacks, and dragged in chains to Uralsk where he was surrendered to the Russian commandant. Suvóroff, on reaching that post, took charge of the prisoner together with his son, a savage lad of fourteen, lodging them both in a strong iron cage which he had had constructed for the purpose. In spite of their insults and annoyances, Suvóroff persisted in spending his nights in proximity to the cage, being resolved not to be cheated of his prize. At Simbirsk the arch-rebel was handed over to Peter Panin and, in 1775, hanged at Moscow. One hundred thousand individuals lost their lives during the progress of this rebellion.

* A spirit of mutiny was manifest even among the regular troops. An officer once addressed Michelson as follows: “The soldiers will not march against their Emperor” (Pugatchoff). Equal to the emergency, the general seized a pistol and shot the offender dead.

Suvóroff spent the winter of 1774 at Moscow, where he married Barbara, the daughter of Prince Prozorovski. The union was an unhappy one and soon followed by a permanent separation. Already forty-five years of age and with a mind wholly absorbed by ambitious schemes, he was totally unfitted for entering on a domestic life, and probably did so merely in deference to the wish of his aged father. Yet, if an unsympathetic and careless husband, he was a fond and judicious parent. Two children resulted from the union: a son Arcadius, and a daughter Nathalia, with whom in after life he maintained an affectionate correspondence. With this

domestic life for ever. An instance of paternal love, which in Suvóroff's case of course found an eccentric mode of manifestation, may be mentioned before quitting this subject. When journeying on a certain occasion from one extremity of the empire to another, he went a round-about way in order to visit Moscow and obtain a glimpse of his children. Alighting at his residence in the dead of night, he noiselessly made his way to their chamber, and drew aside the bed-curtains, silently gazing at them for some instants; then, bestowing on them a curt benediction, he departed and, mounting his sledge, continued his journey.



SUVOFF HANDS OVER PUGATCHOFF TO PANIN.

brief notice his domestic life may be dismissed from consideration. After spending the year 1776 in his wife's society at Moscow, he thus expressed his views on matrimony: "The duties of the imperial service are so engrossing that they swallow up private affections. Having spent a twelvemonth in retirement, I am conscious of an increased longing for service and active employment in the career to which I have devoted myself," and soon afterwards he actually relinquished

Mention has already been made of the designs entertained by Russia against the Crimea; also of the Treaty of Kainardji as having greatly facilitated them by detaching that peninsula from the Ottoman Empire. For the space of nine years after its conclusion a secret conflict was waged between the two rival States for supremacy in that quarter, a conflict which was brought to a termination by the Convention of January 1784 which aimed at establishing a *modus vivendi*. In the

history of these fraudulent transactions Suvóroff played the part of a soldier who executes the behests of the civil power, while Potemkin was the crafty wire-puller of diplomatic intrigue. That celebrated character, a singular compound of mental grandeur and meanness, was gifted with a powerful imagination, whose fondest dream was the deliverance of Russia from the last vestige of alien supremacy, and the infliction on the followers of the Prophet of woes under which they had long made Christendom groan. The Tartar Khans, the descendants of Gengis, still possessed the Crimea; their expulsion would be the first step towards the realisation of these designs. But beyond gleamed in airy magnificence the grandiose scheme known as the "Greek Project," the overthrow of the Turkish rule in Europe and the revival of the Byzantine Empire under a Russian prince. Potemkin's early religious training concurred with patriotism to direct his thoughts into this channel. In youth his choice had long vacillated between the clerical and military professions, while to the end of his days he is said to have discussed theological subjects with eager delight, more especially disputes between the Eastern Church and that of Rome.

The Khan of the Crimea who was thus released from the suzerainty of the Porte was Sahib Ghirai, an adherent of Russia, whom Dolgoruki had enthroned after the successful campaign of 1771. When, four years later, the Khan handed over to Russia the towns which had been ceded to her by the Treaty of Kainardji, his subjects rebelled, drove him from the country and elevated Dewlet Ghirai, the leader of the Turkish faction, in his stead. Sahib appealed to Russia and Suvóroff, overrunning the Crimea with troops, dispersed the adherents of Dewlet, who fled for safety to Constantinople. In 1777 Potemkin, requiring an instrument more pliant than Sahib, promoted the election of Shahin Ghirai, but his candidate was successfully opposed by Selim Ghirai, who was devoted to the Turkish interest. Russian troops under Prince Prozorowski, Suyóroff's father-in-law, once more passing the frontier, captured the towns of Kaffa and Bakchi Serai, the capital of the peninsula; when Selim in his turn fled to Constantinople and Russia remained mistress of his territory.

Suvóroff during this campaign was attacked by a fever caught in the malarious district of Perekop, in which he had been quartered. After a brief sojourn at Poltava he recovered and was ordered to the Kuban district, to hold in check the Tartars who, backed by their Circassian neighbours, were committing wholesale depredations on Russian territory. To this end he repaired an ancient line of forts, which extended from the mouth of the Kuban river as far as Stavropol, but had already fallen into decay. Situated at intervals of fifty miles apart, each was garrisoned by a company of infantry and a couple of

guns. Suvóroff himself acted as military engineer and, having caused 3,000 labourers to be brought from the Don, placed the works in a state of thorough repair in six weeks. Early in 1778 Prozorowski was summoned to St. Petersburg, when his son-in-law assumed temporary command in the south of Russia, administering the government of the Crimea from his head-quarters in the palace of the Khans at Bagchi Serai. A delicate task fell to his lot—that of preventing a Turkish landing without recourse to actual violence. For the Sultan, deeming his rights on the Crimea as valid as Russia's, had resolved to imitate her crafty policy and, having despatched a small squadron to the bay which is now the harbour of Sevastopol in order to secure a landing-place, he supported it with a great fleet under the orders of Hassan, the Capudan pasha. To alarm them inside the bay Suvóroff began to erect batteries on either side its entrance so as to cut off their retreat, upon which the intruders weighed anchor and departed. Soon afterwards the larger armament hove in sight—a fleet of 160 sail—and openly prepared to disembark. But Suvóroff had located batteries at every point which favoured a landing, so that wheresoever the enemy appeared he found Russian troops drawn up on the shore to repel him. Hassan tried artifice, requested permission to land and replenish his water-supply, but was refused on the ground that the peninsula furnished no more water than was requisite for home consumption. Thus baffled, the Turkish admiral returned to Constantinople. Suvóroff next superintended the emigration of some 20,000 Greek and Armenian Christians, the inevitable sufferers whichever Tartar faction held the reins of power. These departed to populate the new provinces of Russia in the south, where they founded the towns of Mariúpol and Nakhitchevan. In 1779 a convention was concluded in virtue of which the Sultan recognized Shahin as Khan, while Russia in turn withdrew her troops from his dominions.

In 1780 Suvóroff assumed direction of the naval and military preparations which were being made at Astrakhan; for the Empress and Potemkin appear at this time to have meditated designs on Persia. Nadir Shah, the conqueror, had just expired, leaving his dominions a prey to anarchy, and it is possible that the imperial conspirators hoped to seize a province in the scramble which was likely to ensue. Georgia had long been the apple of contention between Russia, Turkey, and Persia; but in 1784 Potemkin persuaded its ruler Heracles II. to acknowledge the supremacy of Catherine. Again, Russia entertained a vague project of diverting eastern trade from the ocean route to that of Caspian, since at that period navigation was obstructed by the maritime warfare being waged between France and England. The development of trade with Central Asia was also aimed at, and to further these plans, Suvóroff

was authorized to seize upon the town of Astrabad, situated on the Persian shore of the Caspian. He endeavoured to discourage Potemkin's visionary schemes, advising him that nothing useful could be effected at such a distance from the seat of empire till districts nearer home were better cared for, meaning the vast tracts extending between the Crimea and the Ural river which swarmed with predatory nomads ripe for mischief at every opportunity. At Astrakhan, to his

along the Turkish frontier from Khotin on the Dniester to the mountains of the Caucasus, the Prince entered the Crimea in person at the head of one of them, the Turks having afforded a convenient pretext for the step by forcibly occupying Taman, on the straits of Kertch. Meantime Suvóroff reached A'zoff with his division, being entrusted with the subjugation of the Tartars of the Kuban. Shahin ceded his territories in 1783 to Russia in consideration of a yearly



SUVOROFF IN THE PALACE AT BAGCHI SERAL.

disgust, he was compelled to remain till the close of 1781, when, transferred to the command of the Kazan division, he conducted his troops next year to the mouth of the Dnieper. The Crim Tartars had once more revolted and expelled their Khan Shahin who as before fled to Russia for assistance and protection. If this revolution was not the direct result of Potemkin's intrigues, at any rate that minister was prompt in turning it to account. Six Russian corps being already cantoned

pension; the Empress in the same year annexed them to her Empire, the Kuban district included. Suvóroff now invited these Tartars to Yeisk, on the shores of the sea of A'zoff, that they might take the oath of allegiance to their new sovereign. The solemnity, which took place on the anniversary of the accession of the Empress to the throne, was celebrated by a banquet on a gigantic scale. The festivities were protracted for two entire days; 100 oxen, 800 sheep, and

7,500 gallons of brandy (the guests like good Moslems would not drink wine) were consumed during the orgy, which concluded with horse-racing and other national sports, and many a barbarian had drunk himself to death before these newly-fledged Russian subjects sought their homes delighted with their new rulers. But the ascendancy of the stomach was brief, and their loyalty evaporated with the fumes of the spirits which they had swallowed. Either through the caprice natural to savages, or on account of an attempt made to transplant some of them to the pastures of the Ural, the entire nation of the Nogai Tartars again flew to arms; the emigrants, who had already reached the banks of the Don, broke away from their escort and returned to their homes; and one of their sultans laid siege to Yeisk with a force of 10,000 men during Suvóroff's absence. On the return of the Russian general to the relief of that post, the enemy raised the siege and fled to their desert fastnesses; but Suvóroff resolved to strike a blow at them which should for the future hold them within the bounds of obedience. He collected at Kopyl, near the mouth of the Kuban, a force consisting of 2,500 regulars with 2,000 Cossacks, while a second force of the latter equally numerous was instructed to join him *en route*. He had been informed that the principal camp of the Nogais lay near the confluence of the Laba with the Kuban, and to that point, ascending the right bank of the latter river, he directed his march. Moving by night only, he concealed his forces by day in hollows, ravines, &c., from the observation of the numerous scouts of the enemy. The difficulties which beset his path were immense; roads of course there were none, and the line of march was everywhere intersected by marshy streams tributary to the Kuban. The country was likewise destitute of supplies, except the provision afforded by the captured flocks and herds of the enemy. At length he reached the confluence of the Laba and Kuban, where he was joined by the Cossacks of Illovaiski, who had marched thither from Cherkask on the Don. Mounting an eminence, he descried beyond the river the distant smoke of the Tartar camps, and issued orders for crossing it the same night. The Cossacks, probing the current with their long lances, discovered a ford at a point where the channel extending to a mile in breadth was of course shallow in proportion. The passage was facilitated by an islet in midstream, but the opposite bank was precipitous. The infantry stript before wading across, and held their muskets high above their heads; for the water reached above their shoulders. The cavalry crossed higher up in order to break the force of the current before it reached the infantry, and they carried the clothes of the latter. At dawn on the 12th of October 1783 the force, ascending the right bank of the Laba, surprised the principal camp of the Tartars who

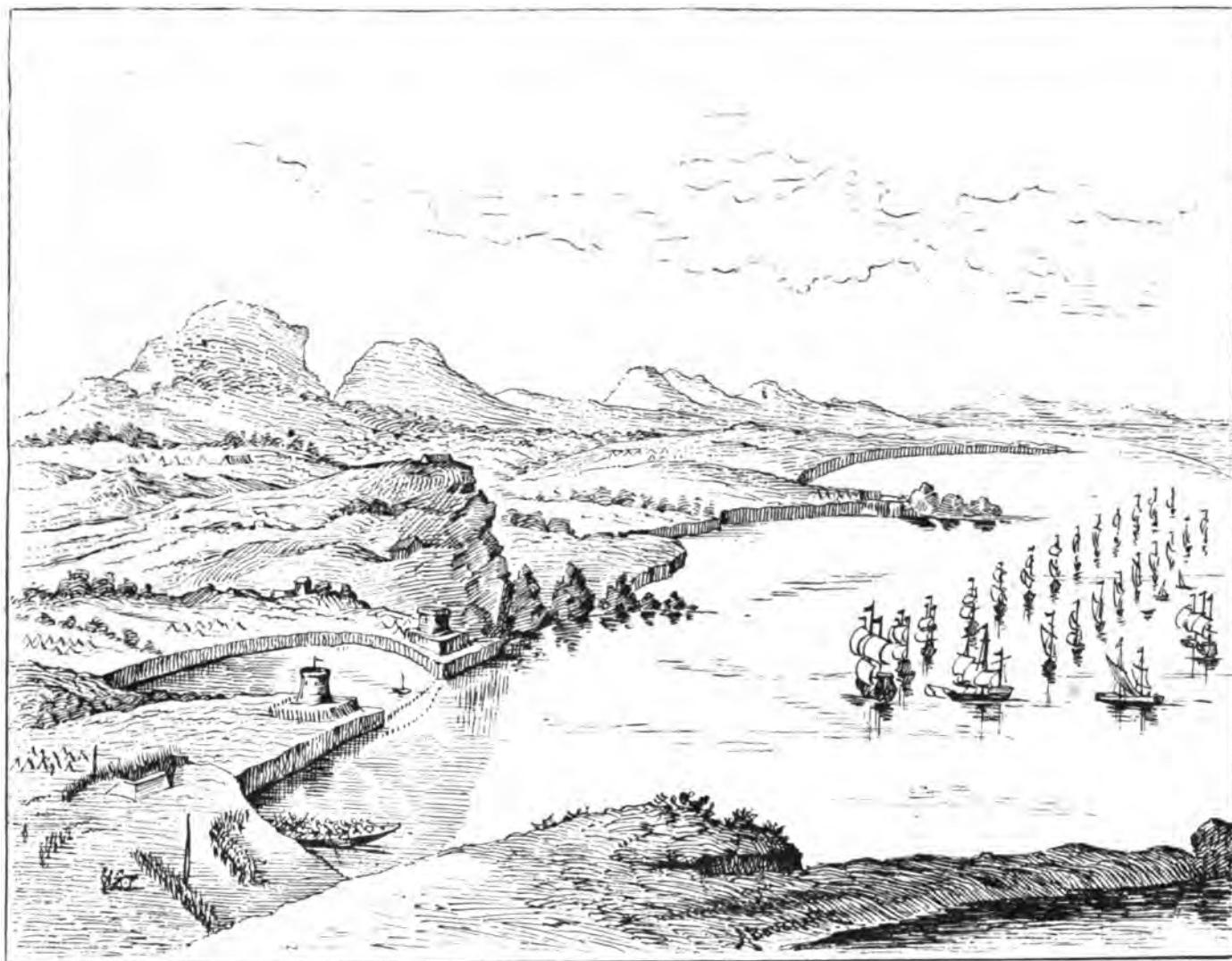
were in complete ignorance of the proximity of danger. A terrible carnage ensued. Four thousand of these warriors were slain on the spot, with many women and children who, according to the habits of their race, shared the danger of battle with their adult defenders. The Cossacks could not be restrained: an ancient blood feud existed between them and their victims. Neither side asked or granted quarter. The victory was complete and decisive. Suvóroff retraced his steps to Yeisk. The struggle was concluded by the definite cession of the Crimea and Kuban to Russia, in January 1784, by the Ottoman Porte. The wretched Khan Shahin Ghirai, who resided at Voronej as a pensioner of Russia, suddenly fled the country owing, as it was alleged, to the non-payment of his salary by Potemkin. Seeking an asylum in the Turkish capital, he was coldly received and migrated to Rhodes where he was ultimately strangled by the Sultan's command.

Suvóroff, appointed to the command of the Vladimir military district, now took up his residence at Undol, an estate which he possessed in that neighbourhood. He prosecuted his studies in military history during this interval of comparative leisure; read the lessons in church; sang with the village choir; rang the church bells, &c. &c., occupations with which he was accustomed to beguile his rural leisure. He was to be seen trotting about the village dressed in white linen garments, gossiping with the peasants about their affairs, arranging their marriages, playing with their children, and throwing ginger-bread or coppers among them. Yet he speedily tired of inaction and begged Potemkin, with whom he was as yet on good terms, to restore him to a more active existence. In 1785 accordingly we find him appointed to the command of the St. Petersburg military division; and in the following year, having attained the rank of full general, he was entrusted with a division of 10,000 men which had been collected at Kremenstchug on the Dnieper.

Just then Catherine was meditating that triumphal progress through her southern provinces which had such important political results. It was through no suggestion of Potemkin's that the project took shape: a faction hostile to him whispered to the Empress that the vast sums which she had lavished in colonizing southern Russia were squandered by the favourite on unworthy or useless objects. Thus it was that she decided to satisfy herself by personal inspection. Potemkin was struck with dismay on learning her intentions, but soon recovered his composure and resolved to confound the machinations of his foes. Though a great genius, he was likewise an arrant impostor. There is reason for believing that he had accomplished marvels in the new colonies and advanced their material prosperity. Yet, too suspicious to depend for justification on the solid basis of truth, he had recourse to a system of deception

which was insulting to the intellect of the princess for whose eye it was devised. The imperial *cortège*, leaving Petersburg in January 1787, journeyed by sledge as far as Kieff, but only to spend the rest of the winter in that city. In the spring, embarking on the Dnieper in a fleet of magnificently decorated galleys, they followed the course of the stream through the provinces subject to Potemkin's administration. To the astonishment of all on board the banks presented a fertile and blooming aspect; for the despotic Minister had assembled crowds of

work which had actually been accomplished. Delighted to perceive that her favourite was not wholly guilty, she was also spared the necessity of publicly disgracing one who had gained a marked ascendancy over her. On the 3rd May she was met at Kaneff by King Stanislas of Poland and on the 10th she reached Kremenschtchug, where Suvóroff had drawn up his division to receive her. Two anecdotes, illustrative of Suvóroff's character have reached us from this period. At a ball given at Kieff, he met Count Alexander Lameth, then on a visit to the



CRIMEAN COAST, WITH TURKISH SQUADRON IN THE OFFING (FROM AN OLD PRINT).

peasantry from the neighbouring districts; wooden cabins had been constructed on the margin of the flood; groves of trees adorned its banks, on which flocks and herds driven there for the occasion browsed in the most picturesque situations, while the measureless expanse behind was stript bare as a deal board. It is not probable that these stage decorations deluded the acute understanding of the Empress, who without doubt saw through the deception practised, while she recognized the solid

Russian Court. Stopping short in front of the stranger he cried: "What are you? your rank, and name?" Lameth replied: "Frenchman, Colonel, Alexander Lameth!" "Good!" returned Suvóroff. But the French Count, nettled at this abrupt address, demanded in turn: "What are you? your rank, and name?" "Russian, General, Suvóroff," was the prompt rejoinder. "Good!" exclaimed the other; and Suvóroff, who was apt to form a mean opinion of those who were abashed

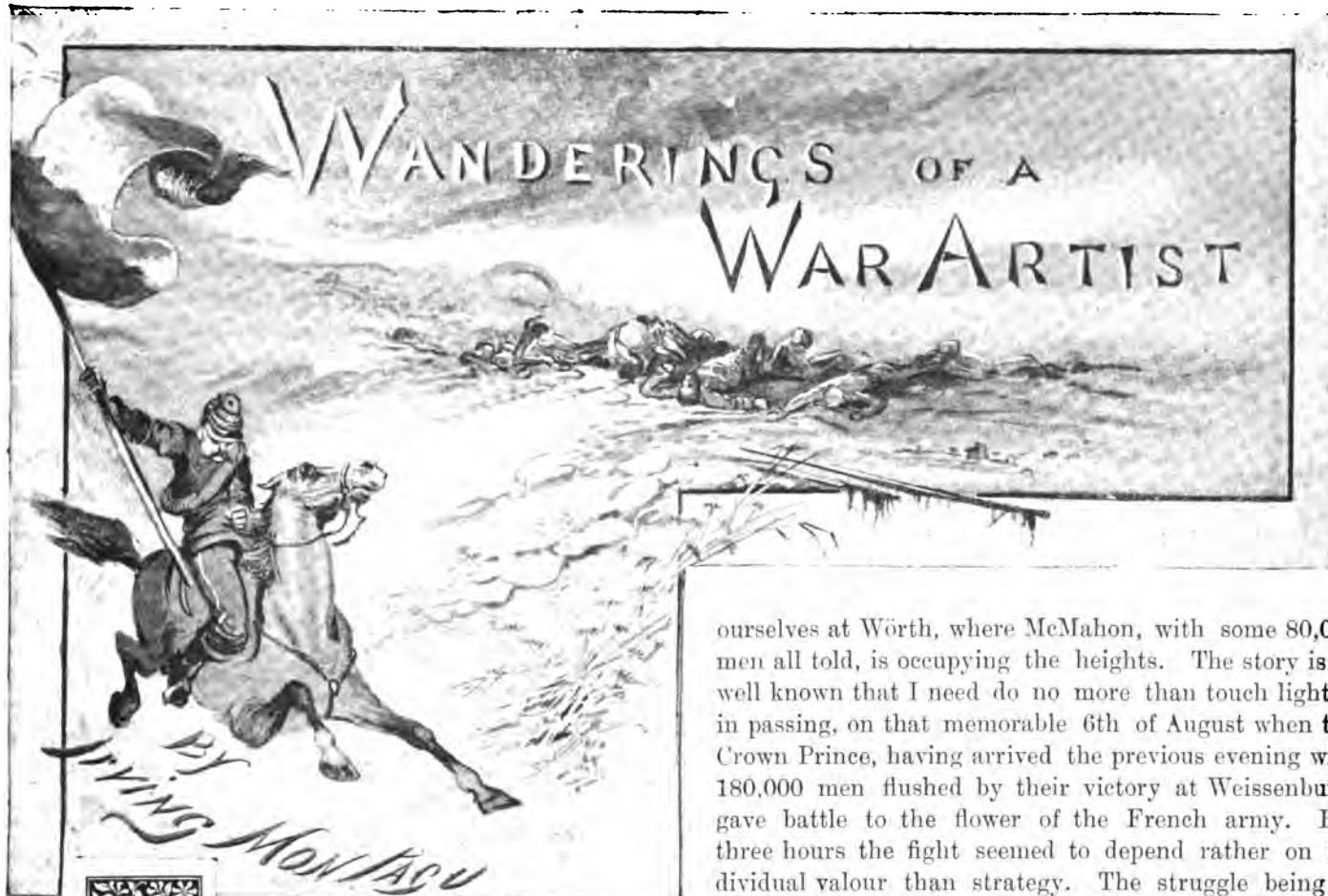
by his sudden queries, burst out laughing and shook him warmly by the hand. Again, at Kremenstchug, Catherine, having passed his division in review, was so pleased with the precision of its movements that, prior to leaving the ground, she distributed rewards to the officers broadcast. Suvóroff regarded in grim silence the obsequious crowd, and when at length the Empress turning to him enquired: "And you, General, do you require nothing?" "Well, mother," he replied, in the familiar style affected by him when addressing the Sovereign, "pay the hire of my lodgings." "Is it much then you are in debt?" inquired the Czarina. "Three and a half rubles," replied this "Alexander Diogenes," as he was nicknamed by the Prince de Ligne. After this adventure he was accustomed to boast that the Empress had "paid his debts." He felt a natural disgust for the obsequiousness and rapacity which was too common amongst his contemporaries.

At Kaidak, Joseph II. having joined the Imperial party, all journeyed in company first to Kherson, which had recently been founded by Potemkin on the estuary of the Dnieper, and thence into the Crimea. At Sevastopol, which had been selected by that minister as a maritime post, they beheld from the heights of Inkerman the Black Sea fleet, his latest creation, riding at anchor below. They next visited Bagchi Serai, the romantic capital of the old Khans, taking up their abode in the palace but lately inhabited by the descendants of Gengis Khan. Thence retracing their steps to the banks of Dnieper, the Imperial pair separated and sought their respective capitals. At Poltava, the fatal battle which sealed the fate of Charles XII. was rehearsed by the troops under Suvóroff's command, when the Empress, scanning the field from the lofty tumulus which is called the "Grave of the Swedes," involuntarily exclaimed, "One moment decides the fate of nations," an appropriate but rather common-place sentiment.

Suvóroff bidding adieu to the Empress at Poltava hastily returned in company with Potemkin to Kremens-tchug; for the Porte, justly irritated by the provocations offered by the two Monarchs, had declared war against Russia (16th August 1787). Since the Crimea seemed likely to bear the first brunt of attack, Suvóroff transferred his head-quarters to the fortress of Kinburn, which covers the approaches to that peninsula. The second Turkish war, in which he was to acquire imperishable glory, had broken out. A glance at his person at this period may not be out of place. It is thus described in Polevoi's biography: "Suvóroff was in 1787 fifty-eight years of age. Already in the decline of life, with thin gray hair, wrinkled face, stooping attitude and low stature, his appearance was well-nigh decrepit; yet he was strong and healthy, active and enduring, and an excellent horseman. He could endure fatigue, hunger, thirst and want of sleep. His blue eyes sparkled with intelligence. His eccentricities astonished no one, for he had long since lost the power of dissembling them. His invincibility had become an article of faith in the army and among the people who, in narrating, exaggerated his eccentricities; how he ran, leaped and crowed like a cock; spoke the truth to everyone; went without furs in the depth of winter, and rode in front of his troops in an old threadbare cloak." In explanation of the above, Suvóroff, a very early riser, on issuing forth before dawn was accustomed to salute the first comer with a ringing cock-a-doodle-doo, sung out at the top of his voice. Duboscage states that this piece of buffoonery meant in words: *Honour to the active and vigilant soldier!* But it is needless to analyze the motives of such remarkable proceedings. This was the man who was about to make Europe ring with the fame of his exploits.

(To be continued.)





ISMET !! Isn't it curious to note how the most trivial circumstances bring about the greater events of life ! Truly

Destiny hides in queer corners and springs up in unexpected places. She was the playing of Napoleon through a long series of successes till she turned on him at Moscow, and annihilated him at Waterloo. Wasn't it she who taught Newton the force of gravitation through the falling of an apple to the ground, and Stephenson that of steam through the kettle on the hob ? She is a whimsical, capricious jade, "fickle, coy, and hard to please," and still more difficult to understand ; so at least I thought, when, having started with the best possible intention of joining the armies of the Crown Prince, I found myself with the French at Dijon, where—to continue uninterrupted our chain of events—it will be remembered we discussed together a bottle of mine host's best, while we listened to the sad story of old François the lunatic.

Now it required no small finesse so to lay out my remaining funds as to admit of my contributing in some sense to the London press, to which I was not yet actually accredited, and at the same time get to Paris before my last sou was expended.

Deviating, then, from our intended route, let us find

VOL. VIII.

ourselves at Wörth, where McMahon, with some 80,000 men all told, is occupying the heights. The story is so well known that I need do no more than touch lightly, in passing, on that memorable 6th of August when the Crown Prince, having arrived the previous evening with 180,000 men flushed by their victory at Weissenburg, gave battle to the flower of the French army. For three hours the fight seemed to depend rather on individual valour than strategy. The struggle being of that tooth and nail type which sprung from the splendid soldierly instincts of both armies, the losses were in each case immense. The Prussians by numbers counterbalanced the advantages which McMahon had in his splendid position secured to himself on the heights ; and now it was that the half successful endeavour on the part of the enemy to cut off his retreat led to his staking the fortunes of the day on a brilliant charge of the brigade of Cuirassiers. The Prussians responded with a heavy cannonade from their field batteries, which, breaking the French cavalry to pieces, decided McMahon's fate—between 7,000 and 8,000 prisoners, a large number of guns, and several Imperial Eagles being taken by the Crown Prince, a success which, capping as it did by just two days that of Weissenburg, had a crushing effect, which all the reckless bravery of the French, aided by one of her best leaders, was unable to check. The moral of the army had gone. The field after the fight told how much their victory had cost the Germans, where red-trousered Zouaves, black Turcos, and Cuirassiers had disputed inch by inch the ground they held till "death had broached them to." Half-hidden by underwood and forest trees (for the neighbourhood afforded abundant cover), one here and there came across little groups who, at a first glance, might have seemed peaceably resting, as indeed

they were, after a hard day at the front—some sitting, binding a wound; others lying about in easy picturesque attitudes in the long grass; here one was to be seen half-reclining against a tree, there another firmly gripping his chassepot, as if some unaccustomed sound disturbed him—yet all were dead, dead as the proverbial door-nail. But it has never been the battle, nor battle-field even, which has presented itself to me as the most terrible aspect of war: it is the train of attendant miseries one finds in its wake—the shattered silent homes and ruined lives of those still left behind, made terribly apparent in contrast with the glamour and din of the actual fighting. The hopeless want of order, too, and utter inefficiency of officials high in office at head-quarters, led to such lamentable shortcomings as far as rations, ordinary equipment, &c. were concerned; mobiles and others on the march being so over-weighted with impedimenta of all kinds, one often carrying the burden of three, and so on, that there is little wonder if, foot-sore and weary, they required more than mere bravery to make them equal to the occasion when it came. Many were absolutely without boots, in the proper sense of the word, that is, having what remained of the shoe-leather which forced marches had left them bound to their bleeding feet with such old rags, string, and hay-bands as might be found most conveniently at hand. I speak naturally somewhat in advance of these earlier battles, the sketch in illustration of what I say having been taken later on, in the autumn of 1870. Camp-kettles, tents, tent-pegs, knapsacks, cartridge-boxes, pannikins, tin plates, and water-bottles going to swell the miscellaneous baggage which, pipe in one hand and musket in the other, I have often seen these poor fellows, docile and plucky to a fault, carrying. Then, again, the way in which, on the Paris Boulevards, a successful skirmish was elaborated into a great victory, and even sometimes a defeat was misrepresented, spoilt the confidence of the people in news from the front. I remember hearing that at the time of the catastrophe to the French arms at Wörth it was given out in the capital as a victorious engagement, in which a whole Prussian army corps, including the Crown Prince and many of his best generals, had fallen into the hands of McMahon.

We must hurry on, however, with the rest, for the iron girdle is drawing closer, and I must not forget that Paris is my goal, even if circumstances were not all too rapidly pointing in that direction. On the evening of this memorable fight, and for many days after, did stragglers from all quarters—cavalry, artillery, and infantry, some wounded, some only half-equipped, hurry into the towns and villages round about, telling a sad tale of disaster to the anxious, terror-stricken inhabitants. A sea of weary, upturned faces met him as the tired, maimed refugee brought in the sad news from the

front. Strasburg was over-run with them, dismay spreading like a fever wherever they went. Edmond About describes how he met them at Saverne—"a long procession of laggards—cuirassiers without cuirasses, fusiliers without guns, horsemen on foot, and infantry on horseback. A real charge of cuirassiers galloping like mad upset my horse in the ditch, and broke the springs of the carriage to pieces." Demoralization, in short, now began to spread like wildfire. The several army corps of the French concentrated on Metz, while what was claimed to be a drawn fight took place at Courcelles, night closing in on the conflict, and bringing the Germans still more within touch of the enemy.

Since this, however, is rather the wanderings of a war artist than a chronological story of the war, I am more disposed to view things from a general than an historical point of view, and am reminded of the many curious aspects which war assumes to uninitiated non-



OVER-WEIGHTED, FOOTSORE, AND WEARY.

combatants. In five campaigns I have noted with interest how some, led away by true patriotism, and others without a spark of any more worthy feeling than love of excitement and natural curiosity, seem to welcome coming strife as an outlet for their pent-up feelings; while others become so pitifully helpless as to see in it nothing but utter and irremediable ruin, becoming completely paralyzed by fear. Then, again, one comes across the true philosopher, be his garb that of the savant or the blue-bloused, sabot-shod peasant. I remember one of these latter, late one evening, not far from Wörth, accosting me by the way. We soon fell into an interesting discussion on the events of the moment.

"Well, Monsieur," said he, in reply to a query of mine, "I suppose I ought to hate the very name of war, my life having been spent in those vineyards, which I now see red with blood; but it's hot blood after all, and we are perhaps as well without it. I envy none of these great officers the glory they buy at such a price."

I really think I'm one of the happiest men in the department. Yes, I'm a bachelor, Monsieur ; and have thus the pleasure of loving other people's children without the anxiety of looking after any of my own. I certainly have often thought I might have been happier had I had a wife; but then, what's enough for one would have barely sufficed for two. You see that chateau yonder on the hill ; it was until recently occupied by a retired banker, whose riches were fabulous, and who is said to have seldom slept soundly lest robbers should become possessed of his treasure I, having nothing to lose, sleep like a top after my day's work in the fields. Again, he has had, at an advanced age, to take his worldly wealth with him and hurry off to Paris for protection. Having no worldly wealth to worry me, I remain quietly where I am. To the left, imbedded in the trees over there, you will see yet another chateau ; two well-to-do old maids live there. The younger was crossed in love when in her teens, her lover marrying a cousin, whom she hated, and her mind has been slightly deranged ever since. I was never crossed in love, and I hate no one. Then her elder sister, whose fondness for the good things of this world could be ministered to to any extent as far as money is concerned, is obliged to live on mutton broth and calves-foot jelly, because of the dyspepsia to which she is a martyr ; while I have the appetite of a whale and the digestion of a crocodile. Surely I am richer, far richer than any of these, or thousands of others who are possessed of money and position " ; and so with a genial good-night we separated, that rustic philosopher and I. Since then many contented hours have I enjoyed in memory of his odd similes, a man who, reading nature as the immortal William had done before him, found " sermons in stones and good in everything." Do you dread a difficulty, or, fearing you will be unsupported in some scheme, abandon it ? Look at that blade of grass growing, aye, and thriving too amongst the plaster and broken bottles on the top of yonder wall, it has but a sorry supply of mould for its hungry roots to cling to, but little dew to moisten that thirsty blade, yet there it is verdant and smiling, teaching us from the great book of nature how philosophically to face the difficulties we have in this life to encounter. Little more than a month elapsed before I was reminded of my friend the blue-blouse by a parallel case at Strasburg, and of which I think the papers of the time made note. The philosopher in this case was the occupier of a house near the Porte des Pierres. His pride was, that nothing disconcerted him. Being as deaf as a post, one had to talk to him through an ear-trumpet. He found this to be an inconvenience to the speaker rather than to himself ; while deafness to the everlasting din of the siege which so scared his neighbours was a positive blessing. True his house had become a wreck ; shells having intersected it at every angle imaginable ; crockery, china,

glass, mixed with broken furniture of all kinds, lay in confused heaps in all the rooms ; while a French clock (a corner of which had been shattered), the hands of which stood at 8.45, with the assistance of a newspaper hastily left behind, bearing the date of September the 8th, told how, in all probability, the trouble began about that time on that day ; though, of course, if in the morning or evening does not appear. The occupier was quite cheery over the disaster ; he would receive ample compensation in due course of time from whichever side got the better of the contest, and had already begun to speculate as to the new furniture he would then purchase. In the meantime he posed as an injured citizen and gained more sympathy from his neighbours than he had thought them capable of. From what a different point of view must the lodger on the flat above him have looked at the matter. Before the first shell fell, that poor old man had gathered together a few necessaries and fled, no one knew or cared whither, leaving his collection, for he was a naturalist of no small research, behind him. His feathered friends occupied almost every available wall of his suite of rooms, arranged in the most perfect order for the inspection of the curious ; but they were not property easily moved, and the changed aspect of the work of a quarter of a century was a terrible sight to contemplate now. Beaks, wings, and legs, mutilated limbs of every shape and colour were bestrewn upon the floor ; while in a corner still intact were perched on wooden stands several fine old owls in solemn conclave ; their eyes distended as if in wonder that human beings, calling themselves Christians, too, could be capable of so much ruthless slaughter. Then there was a jackdaw on a table who took a side glance and looked down with his glassy eye as if to say, " Oh, what glorious chance for loot is here." The philosopher below stairs having nothing to lose which he could not easily replace, was happy ; while the enthusiast above having lost at one crushing blow the result of his life's devotion, was poor indeed. I must not forget, however, while thus generalizing, that I have more than one campaign to chronicle, and, what is perhaps of even greater importance, to remember that I have barely the means to get back to Paris where, whatever the Prussian or French armies intend to do in that direction, I must at least hasten with all possible speed lest I find myself besieged by the greatest and cruellest of enemies to the human kind, with whom, in my earlier life, I had several times come to blows, *impecuniosity*. And so, to avoid this, to secure the whereabouts withal which I felt sure would by this time be awaiting me at the *post restante*, and to feel my footing generally as a Press representative, I hastened off, while I had yet my railway fare at command, to the capital. Poor Paris ! one might, indeed, say with Hamlet : " Where be your gibes now ? " The city of pleasure had lost her smiles ;

the grim reality of the situation was reflecting in every face those coming events which were already casting such black shadows before, and which fell so heavily on every heart. Everyone you passed on the Boulevards was a peculiar study, the same subject occupying every mind, and reflected according to their individuality in the features of each.

As far as I was concerned, having received the remittances and credentials I expected, and having made, moreover, certain satisfactory arrangements with the "Monde Illustré," &c. &c. which, being then an artistic and literary free-lance, I was able to do, I was, as you may imagine, on the best of terms with the world in general and myself in particular. So I put up as I always had done at Hoffman's, a comfortable hotel in the place du

held out to the mouchard in time of war. These creatures were, in the last days of the Empire, attached to one like an official stamp, or the registration mark on one's baggage; and if on one's arrival in the metropolis there was the most remote excuse for it, the shadow hooked himself on to you, attaching himself in a most unpleasantly adhesive way, and, failing to find any case against you, watched you till you finally left for England or elsewhere, with the sad expression on his face of one who feels that in life's lottery he has drawn yet another blank. It was such a shadow that at once was attached to me on my arrival in Paris. I met him at the station; he at first winked and blinked at me like a falcon from whose head the hood had just been taken, and then his eagle eye became riveted, and he stuck to me with



BAD NEWS FROM THE FRONT.

Havre (of which more anon), and set to work making plans for the future, devoting a few days to Paris itself in its then highly delirious state of war-fever. By the way, were you ever possessed of two shadows? If the shadowless man felt the inconvenience to no small extent of being deprived of his, I verily believe that having two such appendages is equally trying. You have failed naturally to see the point of my inquiries. Always supposing nature gave you your proper allowance of one, I refer to the Parisian shadow, which, for the smallest reason, was told off to dog the footsteps of anyone whom for any purpose it might be thought advisable to follow; and if in peace time these shadows, or police agents, found this line of proceeding profitable, how many must have been the attractions

admirable pertinacity through thick and thin; he followed me to my hotel, and later on he was awaiting my departure from it for an evening stroll. I entered a bar, famed for its American drinks; it had two doors. I went in at one and out at the other, my shadow—waiting till I had finished my cocktail—following. From that moment he seemed to look upon me as *his, body and soul*, indeed he seemed a very devil in peg-tops—ever in my wake. The following day I took him round the fortifications. I went by train to St. Cloud; Monsieur was at the end of my compartment, smoking moodily. I returned by another route, and went in the evening to the Jardin Boullier in the Latin Quarter, there to drink refreshing draughts of bock to an accompanying whirligig of mazy

waltz and delirious can-can ; he bocked at a neighbouring table moody as ever, sick at heart that he could find no guile in me, and I heard the heavy thud of his high-heeled boots behind me as I walked back towards my hotel. On the Pont Neuf I rested, looking over for a moment into the Seine in passing ; he, that constant, never-failing he, was also looking over at no great distance. I should have quite missed him had he in sheer despair of finding me guilty of anything, committed suicide at that moment ; and I think I should have taken a camp-stool and sat by my dear departed shadow in the Morgue, till Mother Earth reclaimed him. But he had no such intentions, he was far too much attached to me, the rock to which with all tenacity he clung, for that ; he followed me everywhere ; he was to the fore at the *Post Restante* when I went there for letters, and if I dined at Duval's he took in his modest supplies within a glance of me. At last, one day, I gave him much material on which to speculate. I wrote several articles for London papers in the first café I came to, he exhausting the pages of the *Figaro* the while. I (I should say we) next strolled down the Boulevard des Capuchines. The departure of troops for the front passing through Paris from the north was an admirable subject for my pencil. Again I plunged into the nearest café in order to commit my notes to paper and despatch them at once ; he was at my side, but what—what in the name of fortune could it all mean ?—his moody air had deserted him, he was beaming brilliantly as it was possible for such a face as his to beam. What could have happened ? Oh ! of course he was weaving a web, making up some sweet little plot of his own in which I played chief rôle ; my recent conduct had been suspicious to a degree. I was a mystery worth solving. He rearranged his frayed shirt-cuffs, repointed his waxen-ended imperial, and smiled visibly ; moreover, a friend now joined him. Two extra shadows on a hot autumn day were oppressive to a degree.

Things, however, were coming to a climax. That evening I went to the *Café des Ambassadeurs* in the *Place de la Concorde*. They converged in a serpentine sort of way upon me from opposite points, exulting over their legitimate prey, each at last presenting me, simultaneously, with his police authorization, each at the same moment clapping a hand melodramatically on my shoulder. I wouldn't have escaped them for anything ; I was too much interested. What next ? "Espion ! Espion !" was on every lip ; oh no—nothing of the kind, I had another part to play. I was hooted out of the place in less than no time—a shadow on either side. A few minutes later and I was in a gendarmerie ; I was requested to give up everything ; I, of course, refused, and a struggle took place, resulting as usual in victory to numbers. I was overpowered and searched—searched did I say ?—aye, and almost stripped into the bargain,

my boots being torn off my feet, and then, bruised and dishevelled, I sat for quite an hour on a wooden bench wondering what next would turn up. At last a sort of inspector strolled in, followed by another with all my belongings. The first had a photograph in his hand ; like a lay figure I was turned and twisted about in every imaginable direction to see how far I resembled the portrait. A magnifier was next produced, and a very close inspection of my left cheek followed ; my shirt collar was then turned down in search of a mole or mouse, or some animal or vegetable link between myself and somebody. A look of blank disappointment overspread the faces of all present ; they consulted in an undertone ; my two shadows looking specially crestfallen. Then a police-officer, more urbane than the rest, begged I would see that everything had been returned to me ; nothing was missing. Monsieur was the wrong man ; he was very sorry indeed to say so, but Monsieur was not the American swindler who was "wanted." Monsieur answered admirably to the description—really admirably ; those occasional cocktails had probably emphasized the impression. "And yet," he went on, "Monsieur was evidently not the man—so sorry. Look at this photograph, a scar on the left cheek brought out in bold relief by the magnifier, the missing mole or the absent mouse all proved it to be a case of mistaken identity. Monsieur had no such marks. The authorities apologized most humbly, and Monsieur was free to leave whenever he pleased,"—and Monsieur by this time was not sorry to do so.

Thus ended my first acquaintance with a Paris shadow, as far as the American swindler is concerned. I only hope years have altered the resemblance, and that I may not again be held responsible for his shortcomings. My ardour, however, was undamped by my experiences, and as I was a little anxious to get all I could artistically out of Paris before leaving, I directed my steps the night after the foregoing misadventure to Belleville.

It was Albert Smith who said :

A sort of vulgar Venice reminds me that I am,
Not in dirty London, but still dirtier Rotterdam.

One might thus have paraphrased it in 1870 :

A sort of Seven Dials with a dash of Saffron Hill,
Mixed with rookeries at Rotherhythe reminds me of Belleville.

At the best of times that inappropriately christened suburb of Paris is not a neighbourhood to linger in after nightfall ; but during the war, when the best and worst impulses were alike fermented, when the patriot thought only of his country, and the scum of the city dwelt vulture-like on plunder—Belleville was grim to a degree. There it was in that nest of infamy—that cradle of crime, that I noted, with curious interest, the process of incubation going on, which before long was to develop into the Commune. Indeed, I looked on this quarter of

the capital as a special study, as a resource from which I might draw untold treasure in the shape of subject for the illustrated papers later on—not, of course, that I was prophetic enough to foresee the coming struggle with the Versailles troops, but felt as everyone must who found himself in their midst—that mischief was brewing, and that when the brewery was Belleville it was likely to be no small beer in the end. I remember being introduced, by one who had the entrée, to a little coterie of cut-throats in a small back street in this neighbourhood.

The assemblage forming one of my illustrations, which I took when in their midst on the eve of the two sieges, is a typical group which at that time might have been multiplied *ad infinitum*. There, of course, was the wild enthusiast, the leader of the little party, gifted with that small modicum of knowledge which is a

charcoal-burners and vendors of the neighbourhood; the man from the small charcuterie stores round the corner; the greasy-looking individual who supplies *petits verres* from many coloured bottles at the leaden counter over the way, and the little barber, all soft soap and suavity, who occupies his days with sou shaves, and his nights with eau-de-vie and anarchy. Each and all play their respective parts at the meetings of those small centres, which are really the hot-beds of those innumerable horrors which may be summed up by the one word, Communism. One burly fellow was waving a red flag in the faces of his excited hearers when I entered, as though he were at a Spanish bull-fight, talking loudly the while of blood and barricades, just as an oily, unhealthy-looking *miserable* near him was assuring a fat friend how such and such things *must*



A NEST OF INFAMY.

dangerous thing when possessed by one so unscrupulous, addressing the rest on the gravity of the situation, the utter incompetency of the army, and equally utter impossibility of anything coming right unless Paris—as represented by himself—came to the fore. Then there was also the leader's particular friend, who swore by him through thick and thin, whose narrow mind, so far as it was able to penetrate through the opalesque atmosphere of absinthe in which it was steeped, saw in him the regenerator of the land. There were too, of course, several women of the party. The women of Paris are too historical not to play their part at all such gatherings; a political meeting without a *pétroleuse* in Belleville, would be like a ball in Belgravia without a scandal; the background is filled up with the great unwashed; the

happen, and there was positively no alternative. A rag-picker, having put down his basket and put out his lantern, had, attracted by the babel of voices, just entered. Indeed this rag-picker, with whom I hob-nobbed, led to my forming acquaintance with many of the same motley crew. Introduced by him I made strange acquaintanceships, which in one or two cases were curiously renewed later on. The chiffonnier is a many-sided character well worth studying; one who, not only a picker-up of unconsidered trifles in the ordinary sense of the word, has, when trade is not brisk in Paris, his seasons elsewhere. Having divided, sub-divided, and sold his last basketful of rubbish, he becomes, when warmer weather invites him countrywards—a tramp; he has saved up five or six francs, and with these he purchases a miscellaneous

collection of very cheap jewellery, common coloured chromos (chiefly scriptural subjects), a crucifix or two, laces of various patterns and lengths, pins, needles, thimbles, pens, pencils, and packs of cards; he economizes shoe-leather by the way by carrying his boots on his back, and thus goes from village to village, disposing as best he can of his wares; or, where legitimate business is slack, doing conjuring tricks, or telling fortunes, or robbing a hen roost, or otherwise gaining a living, honest or dishonest, as circumstances may suggest. They are very sharply looked after by the authorities are these waifs, and obliged to show when required their *Carnet*, a memorandum book in which all particulars as to name, age, place of birth, &c. are entered with as much care as if their memoirs were some day to occupy a place in the libraries of their country. They are of two distinct classes, the *Placiers* and *Coureurs*, the former having their regular rounds and special places at which to collect rags, bones, and other *débris*, while the latter wander at will here, there, and everywhere, in quest of the wherewithal to fill the mannequin, or huge basket, which they carry strapped to their backs. It goes for said that, at the best of times, the life of the chiffonnier is but a very sorry state of existence. I remember one who said that its inconveniences were twofold, since the rag-picker didn't make enough to live and still made just enough to prevent his dying. Of course, like the French soldier who carries the bâton of the field-marshall in his knapsack, he also has a remote hope that he may some day find a diamond necklace in a dust-heap, unexpected treasure having been before now found there.

Indeed, the story of one of the few chiffonniers on whom I have heard fortune has since smiled, may not be uninteresting, especially since he was in 1870 one of the little coterie to whom I was introduced.

A sort of *drain demon*, he had gone from sewer to sewer, and dust-heap to dust-heap, for many years in quest of supplies without earning more than the bare pittance which, as a rule, rewards the efforts of scavengers of his class; when one night, groping with the aid of his long-hooked stick and his grimy hand in a pile of rubbish, he suddenly uttered a sharp *sacré*, and regardless of its condition began to vigorously suck his finger. Had he been stung by some gutter reptile, or what could it be that had drawn blood so freely? He now carefully turned over the dirty conglomerate bit by bit; and there, sunk deep in its muddy setting, lay an exquisite brooch, the pin of which had pricked him, and in which emeralds and brilliants played a conspicuous part, being evidently of no small value. If this brooch was or was not advertised for I never heard; but this I did hear, that the chiffonnier disposed of it forthwith for a sum which was, at least to him, considerable, and that having an eye to the future, he so manipulated the amount that before long he was

able to crawl out of his hitherto muddy path, and bring to bear those talents which rags had so long hidden; for it turned out that prior to this more recent state of his existence he had held the position of an officer and gentleman, from which high estate he had been cast down by circumstances over which he at the time had, perhaps, a little too much control. Be this as it may, he and his misdeeds were long since forgotten; and thus at a critical moment emerging to the light and grappling the then position of affairs, he had joined one of those societies in the fever-haunted slums of Belleville, which I have endeavoured to depict; becoming, during the second siege an officer of distinction, who fought not wisely but too well in the cause of miserere; and I can picture him in all the bravery of those fine feathers which have something to do with making fine birds, as he strolls down the boulevards in the small hours, and, with that fellow-feeling which makes us wondrous kind, "throws a handful of coppers to the first chiffonnier he passes on his way back to his club."

What a marvellous sight too were those same Boulevards at that time—as telegram after telegram sped into the capital with fresh news from the front—crowds elbowing their way to get within closer touch of the fortunate possessor of the *latest edition*, who read aloud from the vantage point of a *café chair* for the benefit of the rest. German successes were veiled in the editorial office by wonderful out-flanking movements which, in the immediate future, were to turn the tables in favour of those who were bravely, though vainly, struggling against the on-coming tide of victory which was already half admitted to threaten the capital itself. I was staying then, as I have said, at a comfortable hotel in the Place du Havre, kept, it will be remembered, by one Hoffmann (who though a naturalized Frenchman, was by birth a Bavarian) and his two sisters, and shall not easily forget the abject fear of this unwarlike Teuton, as hour after hour brought accounts of the nearer approach of his countrymen; nothing short of death from his point of view menaced him on either hand. He looked each morning with a scared expression at the fresh posters affixed to the kiosques, and the slightest suggestion of a Prussian advance, reminding him of his own nationality, made him shiver in his shoes—at the sight of his neighbours, all of whom he considered combined to wreak their vengeance against him. He was of a type, happily not often to be met with in the Fatherland or elsewhere, whose sole idol was self. Indeed, it was quite refreshing, on the other hand, to find that, much within the proverbial stone's-throw, one could hit upon any number of instances of patriotic devotion; families whose last sou had long since gone to replenish the military coffers, and who, having left only the young, aged, and infirm in the rear, had gone to fill the broad gaps which Prussian shot and shell laid

bare. One pathetic story *apropos* of this is worth telling. A few doors from Hoffmann's, just where the Place du Havre approaches the Madeleine is, or was, a fruit and flower shop, lovely to look upon all the year round, its loveliness, however, being quite eclipsed by its presiding goddess, a perfect Juno in her fair proportions, who seemed, through sitting there, to have imbibed the essences, as it were, of her fruity and floral surroundings, her rosy cheeks, her cherry lips, &c. &c., seeming to reflect her stores. But it is not of Madame Veloncourt—no, it is not of the widow, but of her daughter Marie I would speak. Just as the Ripstone pippin is to the Blenheim orange, or the fairy rose to the Maréchal Niel, so was Marie to her mother; the same yet not the same; just, in short, what one might suppose the widow Marie to have been when in her eighteenth year she won the heart of Veloncourt. During my brief stay in Paris it had been my custom to purchase fruit every morning at this establishment, and thus it was that I ascertained the reason of Marie's sadness, and the look of anxious concern which seemed ever present with her. She was engaged to the son of the proprietor of a flourishing café in the Boulevard de l'Opéra, who on the declaration of war had at once enlisted, and been drafted off with others to Strasburg. His had been a short-lived glory, a shell having laid him low during the retreat from Wörth. He was taken to a hospital at Metz, when it was discovered that the amputation of an arm and foot would be necessary, if even by these means his life could be saved; besides which the handsome face she had been so proud to look upon was distorted by the explosion almost beyond recognition. "Yes, Monsieur," said Madam Veloncourt, her practical mind taking in both sides of the question, "she loves him for his patriotism, she pitied him for his sufferings, and declares that if he lives no such unworthy reason as loss of limbs or good looks shall sever them. All very romantic and pretty, no doubt, Monsieur, but without an arm or a foot, and probably wearing a crape mask for the rest of his days, what can he do, what possible future can he have before him; how, in short, can they hope to live? We've no savings, Marie and I; they've all been swallowed in the war fund, and how can this heroic but dismembered and disfigured patriot be expected to make headway in the world? It will be a living death; and my beautiful Marie has at least half a dozen rich admirers dying to marry her; but she says, and somehow I seem to sympathize with her too, what matters the loss of an arm or foot if she marries the man she loves. *Mais nous verrons—nous verrons, Monsieur,*" and so we did, for just as Henri Delorme had stood to his colours at Wörth, so had Marie stood to her guns in the Place du Havre. They married, and the fates

being propitious, they prospered. Thus ends a simple story, the sole recommendation of which is that like the adventures of the chiffonnier, it is one of many instances which it will be as well not to leave untold, especially when it serves as a high light to make doubly telling the gloomy forebodings at the same time of their neighbour Hoffmann, the hotel-keeper, the tale of whose abject terror was, when a year since I was in Paris, still on the lips of some. "What am I to do!—what



A SORT OF DRAIN DEMON.

am I to do!" he was continually exclaiming, as day after day his dread of the coming siege increased. "I shall be murdered in cold blood; I know I shall, either by the Prussians or the French. Old friends mistrust me, and strangers think me a spy. If I leave Paris while there is yet time, I leave all I depend on to the tender mercies of the soldiery of one or both armies. If I remain, I shall probably be buried in the ruins of my own house. Can no one—no one suggest an alternative?" Thus between greed (for he was a born miser) and the most abject fear did the contemptible Hoffmann oscillate till the life he clung to seemed hardly worth the living. Never a thought during all this time had he for his two brave sisters (the younger I remember to have been a particularly bright, intelligent-looking girl), who uncomplainingly and fearlessly kept the hotel going as best they could without the aid of their half-demented brother. But of this same Hoffmann and his sisters I shall have much more to say in a coming chapter, which being in legal phrase "the whole truth and nothing but the truth," may be interesting to those who continue to be my travelling companions.

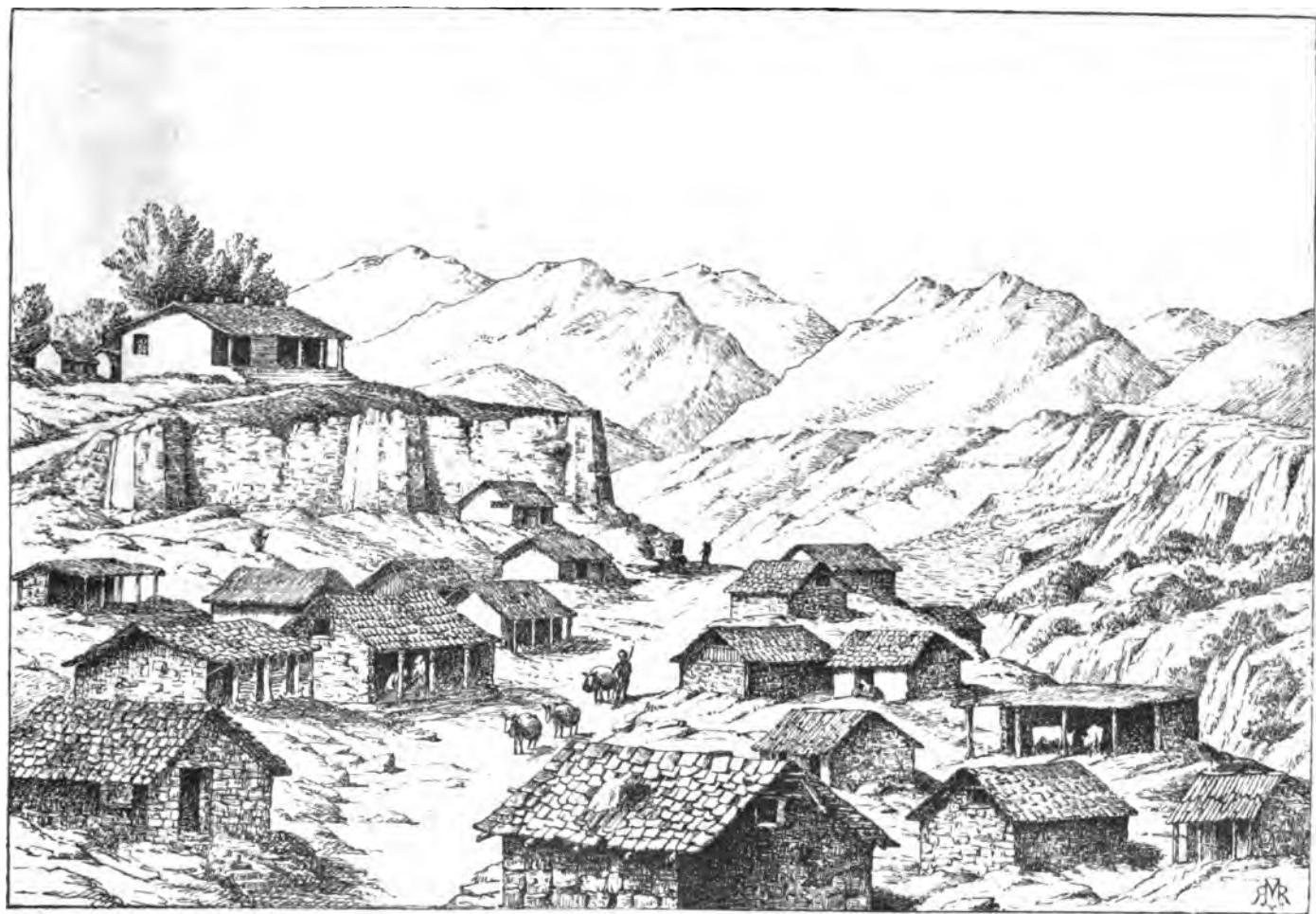
OUT OF THE BEATEN TRACK.

No. II.

BY MAJOR-GENERAL R. REVELEY MITFORD.

PHE secluded valley of Kangra, lying amongst the spurs of the Himalayas, is well-known—at least, by name—to most English people, though it may be doubted whether one in a hundred know more than the name. This picturesque valley is not only interesting as a centre of British enterprise and a rapidly-increasing tea industry, but also for its historical

1009 that the wave of conquest, bearing Mahmoud of Ghuznee on its crest, broke over the rock-throned fortress and overwhelmed the Hindoo dynasty. Taken by the Sikhs under Jai Singh in 1774, by the Goorkhas in 1806, by the Sikhs again after a severe and bloody struggle ended by treachery, in 1809, it was ceded to the British in 1845. Three years later, at the time of Moolraj's abortive insurrection, the garrison and people again claimed independence, but the revolt was



PATHANKOTE.

associations. Fifteen hundred years before the Christian era Kangra was the head-quarters of a powerful Hindoo kingdom; long after the plains of the Punjab had submitted to the invading Mussulman it still remained unsubdued and independent, and it was not until A.D.

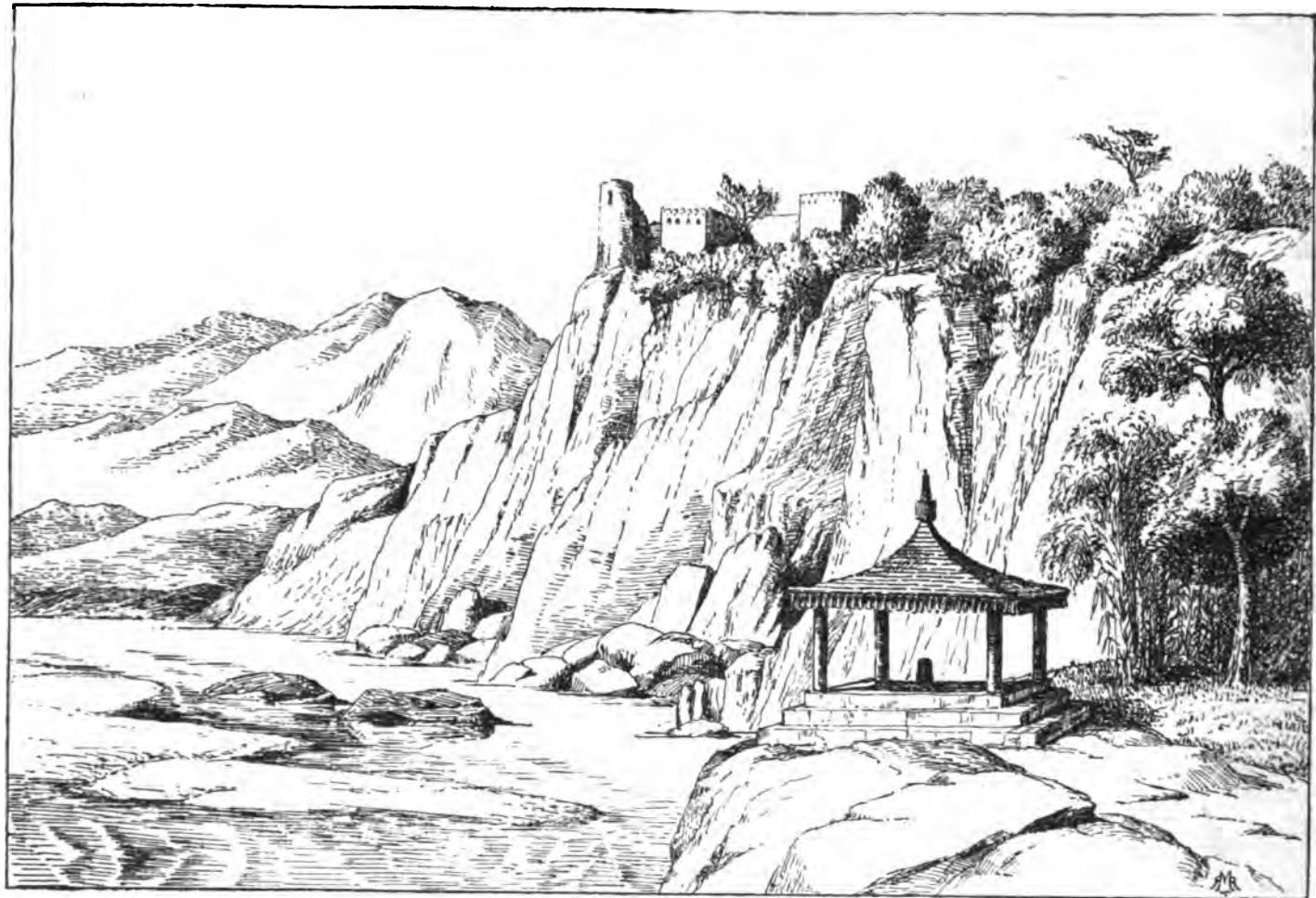
suppressed and the valley finally settled after the victory of Goojerât.

The surface of the valley shows as many traces of upheaval and convulsion as its history; the upper glens, running deep into the heart of the mountains, are most

picturesque, but the plain into which they open is embossed with rocky knolls, riven with deep channels, and seamed with cracks and fissures in every direction; most of these channels eventually debouch into the Beas or the Bângunga, the two principal rivers watering the crops of sugar-cane, potatoes, wheat, barley, and maize which grow on the more level ground, while the slopes of the eastern hills are covered with tea-gardens and crowned by the dwellings of English planters and their native workmen.

While stationed at Meean Meer in 1885 I took advantage of ten days' "district leave" to pay a short

sists, as usual, of three or four rooms, each containing a rough bedstead, table, four dilapidated chairs, and a set of hat-pegs, while a small bath-room behind is furnished with washing appliances; the *khânsâma*, or butler in charge of the bungalow, supplies table appurtenances and the usual fowl, rice, and potatoes; all else—even to bedding—the traveller must bring with him. In rear of the main building is a row of servants' houses, some of which are sure to be occupied by the *khânsâma*'s fowls, goats, and children promiscuously, while the others give shelter to the sweeper and water-carrier kept to attend on visitors.



RUINED CASTLE, KOTLAH.

visit to the Kangra valley. The railway journey is the same as that to Dalhousie, passing through Umritsur and Goordaspoor, and finally landing the traveller at the terminus of Pathânkote at the foot of the hills. This irregularly-built village consists of a number of small houses, with rough stone walls and roofs of slate, thatch, or stone slabs; the latter are often mended with two or three boards held down by heavy stones. Overlooking the village is the *dâk* bungalow, or travellers' rest-house, perched on the ruins of the ancient Pathân fort which gives the place its name; this bungalow con-

The first thing to be done on arriving at the railway terminus was to make arrangements for the onward journey of some forty miles through a hilly country intersected by rock-strewn ravines. The *dâk chowdry*, or posting contractor, was soon in attendance—a sleek, well-fed Hindoo, wrapped in a gaudy Umritsur shawl; this indispensable official at once despatched his lieutenant, a white-bearded old Mussulman, for doolies, and in a short time a couple of these curtained litters made their appearance, each borne by four coolies with the same number as a relay, and we were ready to start.

The main road through Pathânkote leads to the hill station of Dalhousie, but shortly after leaving the village a track branches off to the eastward, and this we followed. Plunging at once into the network of ravines and low hills covered with stunted and thorny jungle, we travelled on through the dust raised by the bare feet of our coolies, whose monotonous grunts and short exclamations alone broke the stillness. Darkness came on ere we reached our resting-place for the night, and the *mussâlchee*, or torch-bearer, lighted his primitive flambeau formed of a knot of tow, or cocoanut fibre, at

support telegraph wires, and the tomb of an imperial concubine is used as a Christian church.

Next morning we started early, and soon emerged from the rock-bound ravine of the Bângunga into the open rolling ground which forms the bed of the Kangra valley. The first thing we remarked was the unusual mixture of foliage—the palm, denizen of the sultry plains, grew side by side with the fir, native of the higher mountains—the feathery bamboo and thorny palmated cactus mingled with the hardy wild pear and sloe, while the fields at the road-side displayed further contrasts,



KANGRA DAK BUNGALOW.

the end of a stick, drenched with oil from a gourd carried in the other hand. A few miles more brought us to the bungalow at Kôtlah, a little village on the banks of the Bângunga, which is spanned by a suspension bridge; this piece of modern engineering looks curiously out of place with an ancient castle frowning on it from the rocky wood-crowned heights above, and a primitive Hindoo temple to Mahadeo standing sentry close to the entrance; but one ought to get accustomed to this jostling of ancient and modern in India, where the ruined walls of antique cities ballast railway lines, hoary palm-trees

potatoes and sugar-cane, barley and maize all growing close together, and every lower level was thickly planted with rice. This heterogeneous cultivation, occasionally broken by strips of thorn-jungle or bare stony tracts, accompanied us for several miles, until on suddenly emerging from a shady grove of mango trees, we saw the steep cliffs of Kangra before us; crowned by the lofty walls of the picturesque fort, their bare rocky sides sweep down almost perpendicularly to the waters of the Bângunga flowing at their feet. A narrow neck of rock connects the fort with the neighbouring hill, up which

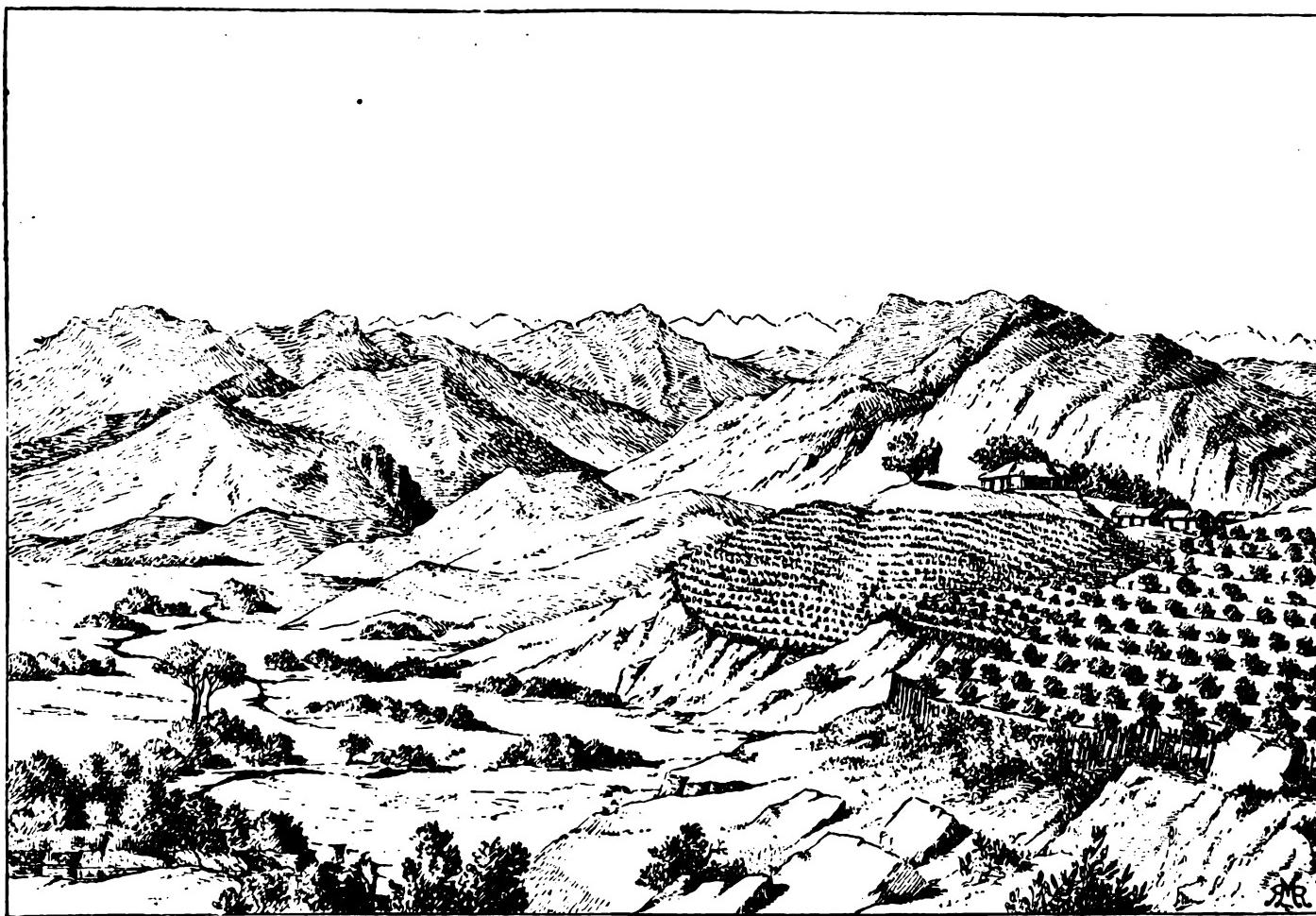
we climbed by a steep path bordered by the houses of the town, perched one above another as if built on steps. A mission church, school and (unoccupied) parsonage



THE TRAVELLER'S FRIEND.

crown this hill, from which a fairly broad path leads over a *col* to the next crest, which bears the dák bungalow. From this point a good view of the valley is obtained, terminating in the low pine-clad hills of Dhurmsala, whence the eye is rapidly carried upwards to the snowy peaks of the great Dháwala Dhár range, sixteen thousand feet above the sea.

As we intended to spend several days here, we devoted the first hours after our arrival to making ourselves as comfortable as possible ; and in the evening went out to see the fort and call on the English officer who holds command at this solitary post. The path again follows the crest of the hill, crosses another *col*, and enters a small grove of trees—the old English cemetery, marked by several grave-stones—and then passes over a draw-bridge and under an arched doorway guarded by a Native Infantry sentry ; a steep climb leads to another arch, on emerging from which we find ourselves in the main court-yard of the fort. High stone buildings of picturesque Hindoo architecture rise on all sides, the floor is solid rock, a solitary peepul tree rises from a fissure at one end, and from the highest battlemented tower springs a lofty flag-staff bearing the Union-Jack. In the ancient seraglio a small chamber with an oriel



A HIMALAYAN TEA-GARDEN.

window is pointed out as having been the prison of the celebrated Noor Mahâl when she was temporarily out of favour with her autocratic spouse.

The position of Kangra fort is unique ; perched on the very summit of a precipitous rock rising from the bed of the Bângunga, which surrounds it almost completely, the walls and cliffs form an almost vertical line from summit to base, and present an impassable barrier at every point except the narrow ridge by which we had entered. One cannot wonder that Mogul and Sikh alike considered it impregnable by force, and therefore only attempted to take it by stratagem and treachery.

Just under the fort walls a small grassy plateau stretches to the edge of the precipice ; on one side are the barracks, capable of accommodating a much larger force than that now occupying them ; and at the farther end of the plateau is a large tank excavated from the living rock, a quaint Hindoo idol in white marble occupying a niche in one corner ; and just beyond the tank is a very pretty little church built when there was a permanent British garrison here, and still visited once a month by the chaplain of Dhurmsala.

Kangra, formerly called Nagarkote, boasts of a very celebrated and ancient temple dedicated to the goddess



FORT KANGRA.

The English alone conquered the rock-bound stronghold by force of arms, but not without heavy loss—heavy, at least, when compared with the weakness of the stormers and the insignificance of the prize.

At present half-a-dozen old smooth-bore guns constitute the armament of the fort ; they are under charge of an artillery sergeant, who, with his wife and small children and the commanding officer are the only European inhabitants. A detachment of native Infantry under a native officer and a few native gunners complete the garrison.

Devi, said to be one of the oldest Hindoo shrines in India and formerly one of the wealthiest ; all proof of the latter statement was carefully removed by the Mogul conquerors, while the former is based on tradition only.

The tea-plantations, or tea-gardens as they are always termed locally, lie at the eastern end of the valley, on slopes of the foot-hills generally at an elevation of 4,000 to 5,000 feet above sea-level. The first thing which catches the eye is the very ugly appearance of dark lines "hachuring" the contours of the hill-sides. On

nearer approach these are found to be the tea-bushes, planted in regular order at short intervals, their dark green foliage* contrasting strongly with the light colour of the soil in which they flourish. Nothing more ugly than a tea-garden can well be imagined, but as it is necessary to have access to every part of each bush during the "picking," this stiff and most unpicturesque mode of planting is essential, and one can only regret another instance of the ornamental sacrificed to the useful. The different sorts of tea are obtained from different parts of the plant, not, as is often supposed, from different species, though, of course, soil and culture affects tea, and gives a slightly differing flavour. "Orange pekoe" is composed of the pair of young fresh leaflets at the very end of each branch, and usually a little extra pains are devoted to its preparation; from the next pair or two of leaves the "souchong" of commerce is produced, and sometimes no more of the foliage is stripped from the plant, though the usual practice is to leave the bushes nearly bare, and it is this custom which mainly prevails, and discredits Indian tea by giving it a harsh, coarse, flavour. On the leading plantations the superintendents are skilled Chinese, and as much care is taken in selecting and preparing the tea as in the Celestial Empire itself, with what results those of my readers who have tasted really good Assam, Deyrah Doon or Kangra tea can judge. The common "broken-leaf" is by no means to be despised and, as its price is very low it is a great boon

* The tea plant is a species of camellia.

to the mass of the natives of India, though generally they only take tea medicinally as a febrifuge.

The English owners or managers of the tea-gardens live in comfortable bungalows, usually built on the highest point of the estate, so that the work going on can be to a certain extent superintended from the verandah, and the coolies never know whether they are being watched or not, a very necessary incitement to a naturally lazy people. The planter's life is very independent and to those who can do with the minimum of society it presents many attractions, first of which, I think, must be placed the freedom already mentioned; then there is always *some* sport to be had, frequently very good indeed, but not in the Kangra valley itself, which does not produce much in the way of game. Palumpore, which may be called the trading capital, has a planters' club, where the scattered Europeans meet, and "ease their tongues" in English, after having perhaps spoken nothing but Hindustani for months; but what they chiefly complain of is the feeling of restraint and imprisonment induced by living in a valley completely surrounded by mountains; this is described as being quite oppressive at times, making men jump on their horses and gallop down to Pathankote, or through the pass on the Jullundur road, for the mere purpose of seeing a level horizon, "getting rid of the hills," as they express it. To us, coming from the ever-level expanse of the plains, Kangra with its ruins and rivers, its rocks and precipices, its varied foliage, and its snowy peaks, seemed a glimpse of fairyland.

NAVAL AND MILITARY NOTES AND QUERIES.

THE FEUDAL SYSTEM.—Whilst the barbarous tribes which overran Europe after the fall of the Roman Empire were wandering from clime to clime in search of subsistence, every individual claimed an equal share of liberty; and then, when Charles the Simple inquired of the Northmen what title their leader bore, they replied: "None; we are equally free." But when they were settled in the possessions won by their swords, they found new cares devolve upon them, and the necessity of a new system of polity. Having abandoned their life of wandering and brigandage, it became necessary not only to cultivate the land for a subsistence, but to be prepared to defend it, both against the attempts of the ancient possessors to regain, and of fresh swarms of wanderers to seize it. Still retaining their military character, and ignorant alike of systems of finance and the expediency of a standing army, each man held himself in readiness to obey the call to service in the

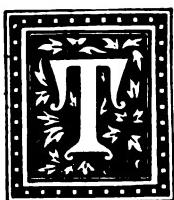
field. The superior officers, who held large territories directly from the Prince, were bound to appear with a proportionate number of followers; and these followers held their lands from their immediate lord on the same condition. Thus a feudal kingdom was properly the encampment of a great army; military ideas predominated, military subordination was established and the possession of land was the pay which the soldiers received for their personal services. The possessions held by these tenures were called *fiefs* or *beneficia*. The vassal who held them was not only bound to mount his horse and follow his lord, or suzerain, to the wars, but also to assist him with his counsel, and to attend as an assessor in his courts of justice. More special and definite services were to guard the castle of his lord a certain number of days in the year, to pay a certain sum of money when his suzerain's eldest son was made a knight,

(Continued on p. 401.)

INDIAN LIFE.

THE CIVIL SERVICE.

By MAJOR-GENERAL DE BERRY.



HE Indian civilian proper is a successful candidate at an examination held in England for appointments to the Indian Civil Service, who, after a subsequent course of study at Oxford for about two years, is then further confirmed in his appointment, is attached to a presidency, and sent to India to commence his Indian career.

The Indian Civil Service may justly be said to be the finest opening there is for young Englishmen; for not only does the Indian civilian commence his service on good pay and a high position in the country, but it is in his power, if he is ambitious and so disposed, and possesses good abilities, and works hard to rise to the highest appointments held in India by European civilians below that of Viceroy; and he may even aspire and succeed to Viceroyalty, as predecessors of his in the Indian Civil Service, such as Lord Lawrence, have done before; but, it must be acknowledged, India generally prefers to be governed by a Viceroy from home—that is, if he has a mind and judgment of his own, and does not let himself be led by others; for then he comes to India fresh and unfettered with Indian prejudices and old friends and favourites, who, if he had any, would expect him to do something for them, and if he did not do it would denounce him as selfish and stuck-up.

In the good old days, as they are called, of the Honourable East India Company (old John Company Bahadur), when the Directors held sway in Leadenhall Street, candidates receiving nominations to the Indian Civil Service, were sent out to India at once, called writers, and studied for about two years at the Presidency Town, which had writers' buildings for them to reside in; and when they had acquired proficiency in the native language of the land, and otherwise satisfied the authorities as to their knowledge and capacity for the duties they had to enter upon, they were sent forth to fill posts in the mofussil (country) districts. The nominations were made by Directors, and the service being good and much sought after, they were generally given by them to young men members of their own families, to the sons of friends, and to sons of persons they were glad to have it in their power to serve and place under obligation to them.

Just about the time of the Indian Mutiny the practice of giving nominations ceased, and a system of compe-

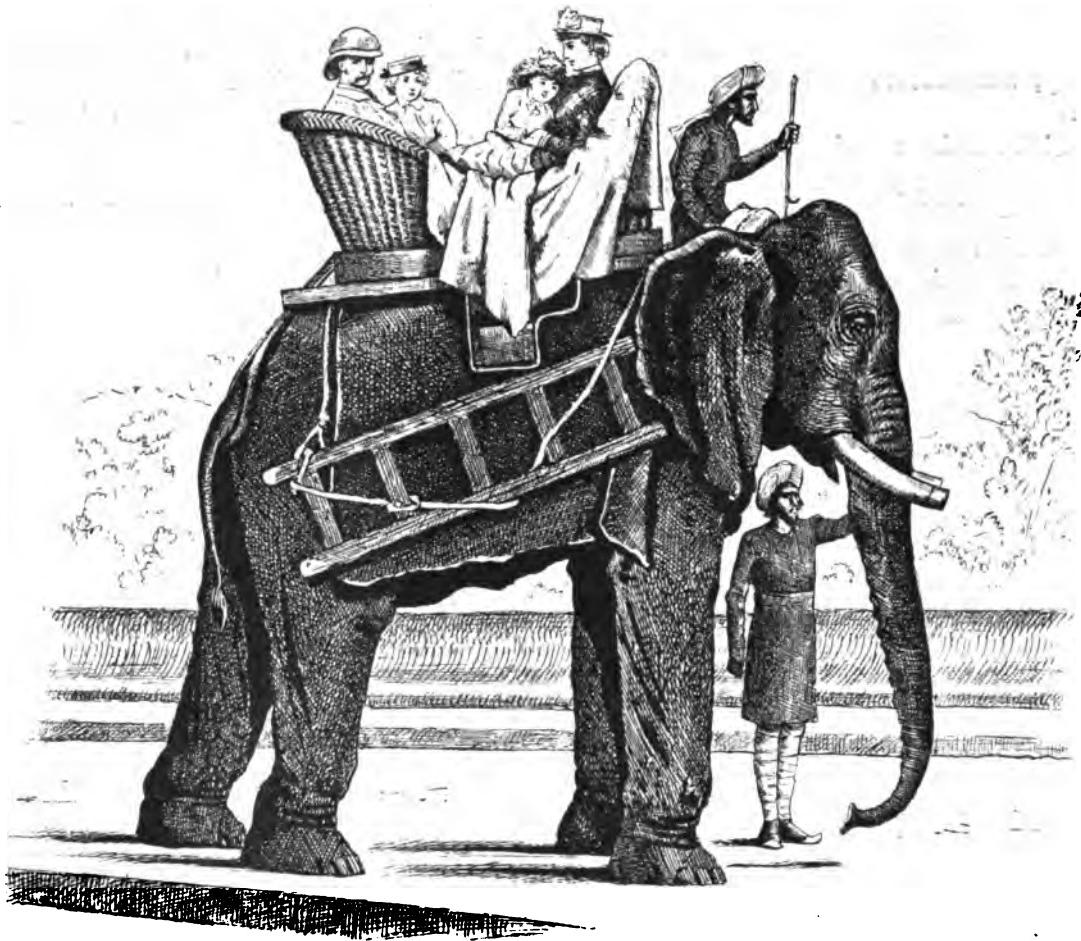
titive test was substituted for these very much coveted appointments. The persons thus entering the Indian Civil Service were commonly called Competition Wallas, and were at first looked down on by Indian civilians of the old régime; but that has now all passed away, and Indian civilians of the new system are found to be not one iota inferior to those of former times, who helped materially to consolidate and weld together the conquered and ceded provinces with which we founded our Empire in India.

There are many appointments in the Indian Civil Service, the members of which begin in junior ones and move upwards. We will, though, with the true spirit of opposition human nature is prone to, act in a way exactly *vice versa*, beginning at the top of the tree in the very short description we are about to give, and move downwards.

We will commence with the Judge. As the puccah covenanted civilian is the *crème de la crème* of Indian officials, the Judge not being free from the natural vanity of men thinks no small beer of himself, and if he is not too *qui hai*, grumpy and crabbed (from disordered liver and digestion, no doubt), to marry and possess a wife, she thinks probably more of her husband's exalted position than he does himself, and from it takes for herself a very high stand and a lead in the society of the town or station in which they happen to reside. The Chief Commissioner is an appointment very little inferior to that of Lieutenant-Governor, and is also made from the Indian Civil Service List. The Commissioner of a division is likewise a very mighty individual. The wife of the high Indian civilian is said by gossiping people who listen to bazaar *gup* (news) and servants' tattle to be quite a different person when disporting herself in the way she loves, as a leading and shining light in official receptions and station social gatherings, to what she is when of a morning early she is exercising her household functions as the ruler of her husband's establishment; in the former case she appears as a very dignified English matron, well aware of the high rank of her husband, and his power under our Most Exalted and Gracious Majesty the Queen-Empress of India, as a public servant of the Crown; she conducts herself in a way to show that she is conscious and conversant with that fact, and exacts from the ladies of the families of gentlemen who are beneath her husband in the order of precedence, which regulates all classes of society in India

both official and private, the homage she considers her due; in the latter case she brings into play and to bear on her own servants, and all those persons that supply her household with the necessaries of life, the experience she has gained during many years passed in residence in India, in the earlier part of which probably her husband was only a junior officer, and circumstances such as children at school in England, and sundry trips home by Peninsula and Oriental Company's steamers (very pleasant little changes from monotonous bad stations in so far that the passengers, all being from India, cow-tow to the Indian civilian's wife), compelled

and reside at the principal town or station therein, and so do Chief Commissioners. Commissioners preside over civil divisions, and are generally to be found at the head or principal civil station of the division. Collectors are in charge of civil treasuries, which are also at large civil stations. Deputy-Commissioners are at first and second rate civil stations, and, assisted by Assistant-Commissioners, hold courts to try cases at those stations, while the duties of other smaller distant stations are performed by other Assistant-Commissioners. Nearly the whole of the cold weather in each year these functionaries spend in camps,



INDIAN CIVILIAN'S FAMILY RIDING ON ELEPHANT.

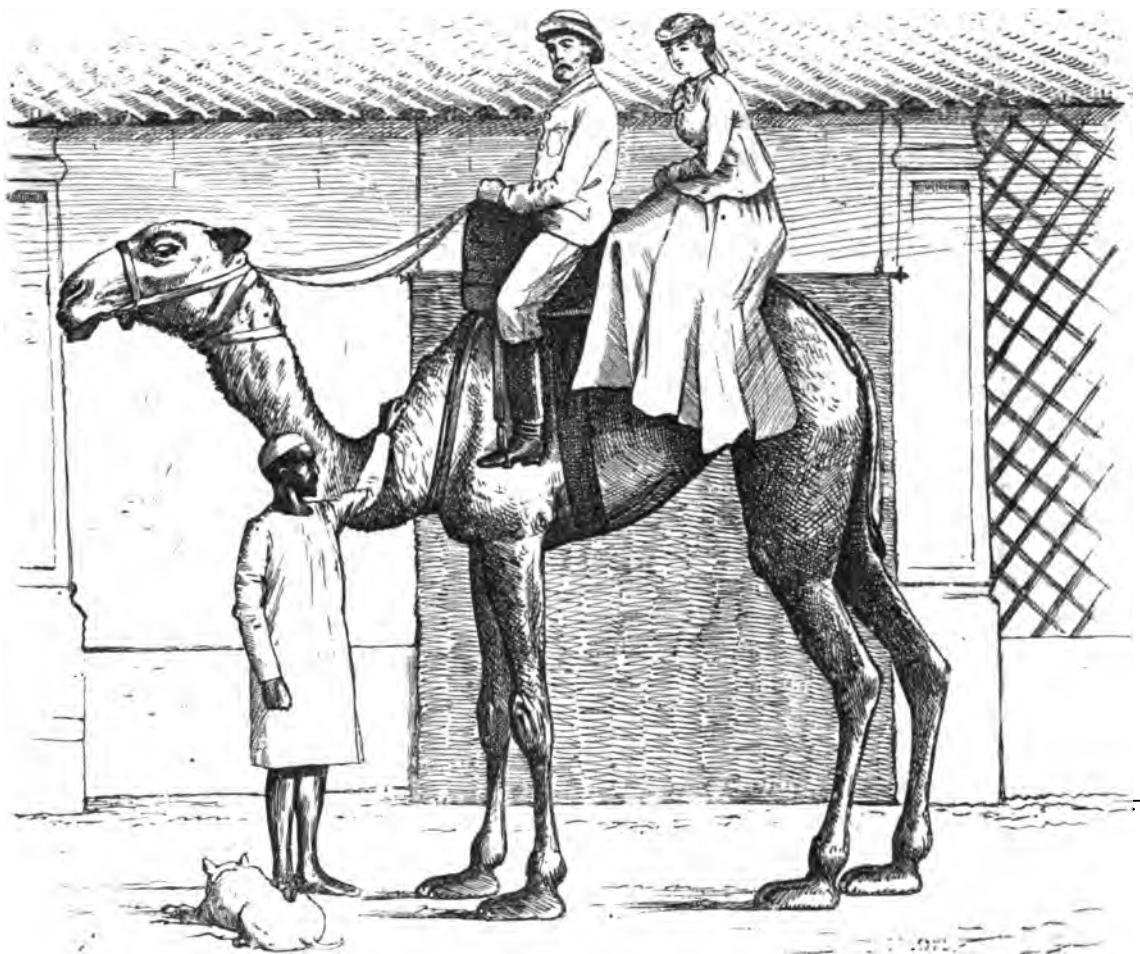
her to be frugal. This, from her knowledge of the ways of Indian domestics, and bazaar nerricks (market prices), she was easily able to be, and the economical habits acquired in her youth have continued in her housekeeping ever since, and are rigidly adhered to whenever they are not too apparent to the other European ladies of the station, who would be sure to scrutinize her actions, and gossip over everything they conceived to be beneath the dignity of the Burra Mem Sahib (great lady), whose husband draws such a lot of *taluk* (pay) every month.

Judges are attached to provinces or presidential towns,

touring about among the different villages and places in their administrative charges: and a very good thing too, for they get to know more of the people and places than they could do by staying in their stations. They hear complaints and redress wrongs on the spot, and no doubt labour hard and get through a lot of good, useful work, but they also reap their reward in the travelling allowances they draw daily whilst in camp, and in the sport they enjoy in their leisure hours. The *moolkee log* (civilians) are held in awe by all country people, and, when they are coming to a village, supplies are gathered rapidly from all quarters far

and near for them, and if there is any big game to be had to shoot in the neighbourhood, it is generally reserved for such an occasion as the visit of a commissioner or some such big civilian official. Sometimes commissioners and their assistant civil officers of a division form one camp, and travel about together. They take their ladies with them, and hold their Christmas festivities in the jungle, halting several days for the purpose, and on these occasions they invite out from stations other congenial spirits to help them in their high jinks, and keep the season as

is another class of Indian civil servants, but these are not puccah, and are called uncovenanted; they are engaged in the country, and are generally appointed deputy collectors to serve under, and subordinate to, puccah covenanted Indian civilians, and being inferior officially and socially, are not given the *entrée* into society such as the latter gentlemen move in. There are also native civil officers appointed in India to assist Commissioners, and these native gentlemen are termed extra Assistant-Commissioners. What is said of the wife of the high Indian civilian may be applied in



INDIAN CIVILIAN AND LADY RIDING ON CAMEL.

much as possible as a season of rejoicing, just as it ought to be and is tried to be kept everywhere, both at home and abroad. When on the move all modes of conveyance are resorted to for purposes of progression, and such as are found best suited to the country are adopted. For the least active of the party, palanquins, dhoolies, shigrams, and carriages of sorts are used; while for other ones more active, animals of sorts, elephants, camels, and horses are provided. There

a lesser degree, consistent with the standing and appointment of the husband, to the wives of all Indian civilians of the puccah or covenanted service. The foregoing is not meant to disparage in any way the Indian civilian and his wife, but simply as a sketch of what Indian life really is and nothing more. The full-dress uniform of the members of the Indian Civil Service is somewhat the same as that worn by the Corps Diplomatique—a species of court dress.

MILITARY PROBLEMS.



T is proposed to submit to our readers monthly a few problems on service subjects for solution. These will be kept within the reach of those who possess ordinary professional attainments; scientific officers are therefore warned off. Solutions of these problems, with all necessary diagrams, will be published in our issue next following their first appearance.

Two prizes will be given twice a year to successful solvers, viz.: a first prize of £3, and a second of £2. A certain number of marks will be allotted to each problem, and the solvers making the greatest aggregate scores will be considered the prize-winners. The marks will be awarded by the Problem Editor, against whose final decision there will be no appeal.

Solvers may use a short *nom de plume*, but must (in confidence) send their names and addresses to the Problem Editor.

Solutions of these problems should reach the office of this magazine not later than the 15th of each month.

Suggestions for the enlargement and improvement of this scheme, subject to the condition of the problems not being made too scientific, will be gladly received and considered.

All communications on this subject should be addressed to

THE PROBLEM EDITOR,
Illustrated Naval and Military Magazine,
13 Waterloo Place,
London, S.W.

No. II.

PROBLEM IN FIELD FORTIFICATION.

Thirty hours are available for the construction of a Field Redoubt. The necessary earth is to come from a ditch and trench, the former furnishing $\frac{3}{4}$ of the required amount (the increase of bulk on excavation need not be taken into consideration), the latter the remainder.

(a.) Draw to scale the strongest PROFILE possible

in the time, showing the parapet, ditch, and trench, the exigencies of defilade requiring that the parapet should have a command of 10 feet.

(b.) The interior slope, 320 yards long and $4\frac{1}{2}$ feet high, requires revetting. There are available in the field-park 150 iron-band gabions and 2,520 sandbags. How many sods (regulation size) will be required to complete the revetment of the whole of the interior slope, the gabions being crowned with sods, and resting on a course of fascines? (No allowance need be made for waste.)

(c.) What sized square of turf would supply the necessary sods?

SOLUTIONS OF PROBLEM I.

(a.) Required COMMAND, 10·61 feet; may be taken as $10\frac{1}{2}$.

(b.) Required HEIGHT, 18·39 feet; may be taken as $18\frac{1}{2}$.

(c.) PROFILE dimensions:

Parapet—

Command, $10\frac{1}{2}$ feet; thickness, 12 feet; slopes, $\frac{1}{4}, \frac{1}{6}, \frac{1}{8}$, and $\frac{1}{12}$ in steps of 18".

Ditch—

10 feet deep; slopes $\frac{1}{4}$ and $\frac{1}{8}$.

Trench—

3 feet deep throughout; slopes $\frac{1}{4}$ (front slope in steps).

Area of Parapet, 200 feet square.

" Ditch, 150 "

" Trench, 50 "

(d.) TIME required, $37\frac{1}{2}$ hours.

(e.) GARRISON, 525 men.

ANSWERS TO PROBLEM I.

NAME.	SCORE. (Possible score 50.)
F. Long	49
" Cambria "	45
" Canyke "	41
W. McClintock	39
G. McMunn	34
F. King-Hunter.	33

THE RAMBLER PAPERS.

III.—DANDY.



STORM often bursts suddenly, but nearly always lulls gradually. In an hour or two a clear sky will become overcast, a breeze will freshen into a gale which soon tosses up a placid sea into countless foam-crested billows, and ripples which had kissed the shore

with tender playfulness will suddenly be transformed into angry waves. But it takes many hours for the storm to pass away, and many more for the sea to become itself again. So it was with the General's household. The little storm, which had suddenly burst over the breakfast table, and overclouded the domestic sky, had stirred up feelings which were not easily allayed; and indications of the past disturbance hovered in the air for four-and-twenty hours. But the next day all was quiet again; Meg's fury had passed away like the wind, and she had "forgotten all about it"; Mrs. Wylde's manner, like the beach, showed signs of yesterday's conflict; while the General, like the rocks, remained standing apparently the same, but in reality a trifle more worn away.

Breakfast over, the General betook himself to the garden, where he was shortly joined by Meg. All signs of yesterday's temper had departed from her face, and given place to a look of happy self-complacency, which in her father's eyes meant mischief either completed or contemplated.

"What is the matter with you this morning, Meg?" he asked, as he crossed his hands on the handle of his spade and looked at her. Meg was seated on a corner of the fowl-house, her little shoes dangling a foot from the ground. In her lap were a number of pea-pods which she was idly shelling, throwing the husks, as she emptied them, with much precision of aim at the General's cochin-chinas.

"I've got a secret, Dad," she answered, laughing as she hit an old hen on the head with enough force to send her cackling away in alarm.

"No mischief, Meg, I hope?"

"No, no mischief—honour!"

"Well, what is it?"

"I've got a dog."

"Where?" asked the General, alarmed, and looking round the garden as if he expected to see it tied up somewhere. Meg laughed.

"Not here," she said; "you know mother cannot bear dogs, so I've been obliged to put him in the mews."

"How long have you had him there?" asked her father, interested though scared by the suddenness of his daughter's revelation.

"Only since yesterday. Tommy Bowles promised him to me a long time ago, and gave him to me yesterday afternoon. I couldn't bring him home, so I had to take him to the mews. That's all."

"Well, I never!" exclaimed the General, helplessly.

"And I'm going to take you with me to see him now at once," continued Meg, warming to her subject. "Come along; change your coat; mother is ordering dinner; it isn't far."

Her father allowed himself to be persuaded, and they were soon on their way to the stables at the back of the house to inspect Meg's present.

"You'll have to tell your mother, you know, Grit; and how are you going to arrange for his keep?"

Meg's face fell at these remarks. To deprive her of her secret robbed her of half the pleasure of possession; and as for paying for the dog's keep, that difficulty had never presented itself to her mind until now.

"I don't know," she said, answering the question, and leaving the assertion to take care of itself. "Sam told me he would look after him."

"What is his name, Meg?"

"Dandy."

They were by this time at the mews, and after Meg had hailed "Sam" lustily some score times, and even whistled to attract that gentleman's attention, an ostler emerged from one of the stable doors. He wished Meg, with whom he seemed to be tolerably intimate, good-morning, touched his cap to the General, and assured them both that "the dawg was allright." He then led them to another stable, and throwing open the door, disclosed Dandy, curled up on some straw under the manger.

"Isn't he a beauty?" cried Meg enthusiastically, catching up her prize in her arms, and exposing the whole of his waistcoat and very little of his head to her father's criticism. Dandy resented his mistress's rough handling with many struggles, and at last escaped from her embrace.

He was a very long-bodied dog, and his tail was nearly as long as his body; his shaggy coat was grizzled grey, and his ears seemed to belong to some other dog altogether, so out of keeping were they with the rest of his physique. They were long, broad and smooth-haired, and might have been the result of a successful graft

from a Dachshund. His legs—his legs were a deformity, they were so short, and withal so crooked. In front he was knock-kneed, behind he was bandy-legged. Viewed architecturally, Dandy in plan was all length, in elevation nowhere. But he was not all ugliness; his eyes were a beauty in themselves: large, round, and of a rich nut brown, they overflowed with intelligence, and, as he gazed up inquiringly into his young mistress's face, they pleaded excuses for his other physical defects so successfully that she caught him in her arms again and kissed his ugly face all over.

"What sort of a dog do you call him, Meg?" asked the General on whom Dandy's eyes had already made a favourable impression.

"Mr. Bowles did not say," replied Meg, hesitatingly; "and Captain Merrithort told me he was two or three sorts; I forgot to ask which. But come along; let's take him for a walk."

The General demurred a little at this, but at last yielded to his daughter's entreaties, and they all three started down the street, Meg with many whistlings, Dandy with many scamperings, and the General with many misgivings.

The worthy gentleman regarded his daughter in much the same light as a wary skater looks on ice: as the source of much enjoyment, but enjoyment attended with a certain risk. He loved her dearly, and gliding along in her society was to him a delicious sensation; but he knew that there were many places in the companionship marked "dangerous." His wife took a different view of Meg's case. Meg was to her a thorn in the flesh that rankled continually; Meg jarred upon her susceptibilities; Meg was capricious, wayward, untidy, passionate, and all these traits Mrs. Wylde had been taught in a stern school to look on as unholy. Meg was certainly truthful, and truth, however unpalatable, was Mrs. Wylde's creed, so much so, that she regarded tact as a gaudy mantle used by the inaccurate to cloak falsehood; but for all that she was a lady who preferred that opportunities of correcting misstatements should occur sometimes to the absolute preclusion of all such chances. Altogether, her daughter's ideas of truthfulness and her own were at variance and often clashed. Battles royal were the result, for there were no yielding softness in her composition, delicate as she was. Glass, though fragile, is hard; but then glass is transparent, and Mrs. Wylde was not that; dense, indeed, she might be called by those who knew her slightly, for never had she been known to encourage, much less to appreciate, a joke; but those who were intimately acquainted with her fancied that she saw through other people more clearly than she intended other people to see through her.

As for Meg, a character such as hers was not likely to blend comfortably with her mother's. It was a rough cast from the mould of her temperament, whose

undeveloped beauties had not been called forth by the gentle touch and delicate handling of a sympathetic home, nor yet awakened by the influence of a stronger and more tender passion; neither had it been rounded into shape by friction with its fellow casts, nor polished by careful education, nor battered by experience.

The pair, or the trio—for Dandy was very companionable, and made himself quite one of the party—walked a mile or two out into the country lanes that surrounded the town, in thorough enjoyment, until they came to a large pond by the road-side, where they stopped. This pond was well known to Meg; in her childhood she had passed many a pleasant hour on its brink, searching for newts, bottling tadpoles, or playing with the frogs that dwelt in it in numbers; and many a scolding from her mother for wet boots and bedabbled clothes had she experienced by reason of this pond.

As father and daughter stood together gazing at its slimy waters the girl remembered these past misfortunes. Suddenly a thought struck her, prompted no doubt by the sight of a stick lying at her feet, and, as Meg's actions were accustomed to follow very closely on the heels of impulse, she picked up the stick and flung it far out into the middle of the pond, shouting encouragingly: "Hi! Dandy—good dog—fetch it!"

To her surprise, no less than her delight, Dandy, who was on the alert in a moment, dashed into the water and struck out boldly for the stick. Meg watched him with the keenest interest and enthusiastically applauded and encouraged his efforts. He reached the stick at last, seized it, and had completed about half his return journey when suddenly he appeared to be making no progress through the water, in spite of his seemingly redoubled efforts. Meg ceased shouting and watched his struggles with growing anxiety.

"What is the matter with him?" asked her father, also somewhat alarmed.

"He is caught in the weeds," cried Meg, excitedly. "He will be drowned." Before the General had any idea of her intention, or had even realised the gravity of Dandy's situation—before he could put out a hand to stay her, Meg was in the pond wading out to the rescue of her dog. The water suddenly rose about her—it was up to her waist, when he heard a voice behind him exclaim:

"By Jove! that's a plucky girl."

And then the General, who was too frightened to be surprised, saw that there were now two people in the water, and that the fresh actor in the scene was a man who, in a second, reached Meg's side, put his arm about her, turned her round, and told her almost rudely to get back to the bank unless she wanted to be drowned; and then that he pursued his way rapidly to the spot where a little paw and a black muzzle were all that remained above water of poor Dandy, who, with one last look of

piteous horror in his brown eyes and a whimper of farewell, had sunk beneath the surface.

The General, who by this time was himself up to his knees in the water, seized Meg and dragged her high and dry. Then they both turned and watched their new-found friend, struggling towards them with the dog in his arms. Drenched from head to foot and covered with black mud and slime, he presently emerged and placed his burden, none the worse apparently, at Meg's feet.

"Why, bless me, it is Dorman!" exclaimed the General, recognizing the mud-bespattered face of Dandy's deliverer.

"Yes, it is Dorman—at your service," said that gentleman. "I knew it was you, General, but had not time to tell you so," he continued, laughing, and wringing the water out of his coat-tails.

Meg, who had been looking earnestly at him, here came forward, and, holding out her hand, said simply:

"Thank you, Captain Dorman, you saved Dandy's life."

"You set a pretty high value upon it, it seems, Miss Wylde, for 'pon my word you risked your own for it."

"I never thought of that," said Meg.

"No more does he, the ungrateful little beggar," replied Dorman, looking at Dandy, who was rolling in some long grass.

Although he had never spoken to her before, Dorman knew Miss Wylde very well by sight and by repute, as who did not who had been quartered a month in the garrison. It was a curious introduction, and in after years he never forgot the *sang froid* with which the girl had stood before him in her dripping clothes with hand outstretched, thanking him more with her eyes than in words for rescuing her dog.

"Come to the house and dry your things," suggested the General.

Dorman expressed his thanks for the invitation, but declined it, saying that the barracks were "pretty handy." He nodded to the General, bowed politely to Meg, and strode away, the water squelching in his boots and dripping off his clothes at every step he took. But there was nothing in his appearance that excited Meg's ridicule; she looked after him with admiring eyes. His prowess had made a great impression on her.

The excitement of the misadventure having passed, Meg and the General held a council of war as they trudged homewards as to their course of action in the immediate future. Meg was for shutting up Dandy in the stables again, slipping quietly into the house by the area gate, and saying nothing to her mother about their morning's experiences. The General accepted the first proposition, but declared that Mrs. Wylde must not be kept in ignorance. "For," said he, sagaciously, "your mother is sure to find out all about it, Grit, and it will be the worse for you, you know, if she isn't told."

"As you like, Dad," said Meg carelessly. In her heart she knew that her father's counsel was good.

They accordingly handed Dandy over to the care of Sam, and repaired to the house—a very woe-begone looking couple.

"Of course," said Mrs. Wylde, when she had heard Meg's story of the immersion, "you break all this to me when the mischief is done, and, without the slightest consideration for my feelings, suddenly present yourselves before me in this plight. Of course, Walter," she continued, turning to her husband, "if you think it becoming to harbour secrets from your wife and to encourage your daughter to throw money—for her dress cost more than three of my own—as well as dogs into a pond, it is hardly my place to interfere."

When she had finished speaking and had sighed pointedly at the marks made by the dripping couple on her otherwise spotless drapery, she took up a religious periodical that was lying on the couch at her side and composed herself to read.

"I did not throw him in," burst out Meg in self-defence.

"Do not answer me please, Margaret," said her mother, wearily. "Go and change your clothes at once, or we shall have a doctor's bill to pay in addition to the dressmaker's."

Meg did as she was told. It probably occurred to her that to prolong the interview would give rise to a discussion on ways and means *in re* Dandy, the author of the mischief, and this, under the circumstances, was not desirable.

At luncheon Mrs. Wylde declared herself prostrate after her morning's anxieties and too weak to talk; but she continued to emit a series of heavy sighs like minute guns, and for the remainder of the day she thus reminded the General sixty times an hour of his shortcomings and of her own martyrdom.

IV.—PARVA LEVES CAPIUNT ANIMOS.

An old hunter loves the sound of the horn, and will hobble to the fence that he is now unable to jump, to look at the passing hounds whose lead he has long since ceased to follow. It was this instinct doubtless that induced General Wylde to fix his permanent and presumably his last abode in the precincts of a garrison town. He had never been much of a soldier—circumstances had prevented that—but he had been at least a military man, and although the sights and sounds of barrack life had long since lost their meaning for him, still the echo of the distant trumpet-calls, the occasional rattle of musketry and the boom of the evening gun all had the same fascination for his old age that the sound of the horn has for the super-

annuated hunter. General Wylde's surroundings were essentially military. His house lay within walking distance of barracks and mess; when the wind lay in one direction he could occasionally catch the faint strains of "The Dead March in Saul" wafted from the station hospital; when in the other, the tinkling of the garrison chapel bell; his acquaintances for the most part inhabited quarters, and the society in which he gently moved and unobtrusively had his being possessed all the marked characteristics of garrison society. Like every well-organized force, it was subdivided into units, or cliques, as they are termed socially, each being self-important and self-reliant, each having its own representatives, male and female, and each producing amusement at stated intervals and in due rotation for the garrison in general or themselves in particular. Then again there were sets: a hunting set, a cricketing set, a dancing set, a theatrical and a musical set, a set who did everything, and a set who did nothing.

The General would enter the mess, turn over the papers, nod to his acquaintances, and get home in time for dinner; he never dined out except on rare occasions, and then only at private dinner parties. He belonged to no clique, nor was he in any particular set, but he knew them all a little, his knowledge being chiefly derived from watching during many weary hours of chaperonage while his daughter disported herself at their various entertainments.

Peggy Wylde, or Grit, as she was even sometimes spoken of, was as well known as Tommy Bowles himself, whose batting averages and horsemanship rendered him equally famous in summer and winter. Had the General only known it, she was as much an institution in the place as the garrison guard. But he did not know it. He was not a very wise old war-horse, or he would have sniffed the danger she ran daily of being posted in that equine category of garrison celebrities which flippant young officers and ill-natured old mammas are wont to refer to with contempt. Peggy Wylde was at every ball, concert, or party that was given, and never lacked companionship or partners. She was danced with, laughed with, chaffed with, but never flirted with; she was too well known for that, but she was universally allowed to be pretty.

In all these sports and pleasures Clement Dorman took but feeble interest. He rarely hunted, and never played cricket; he spent more of his time in the library than in the billiard-room, and, but for the fact that he could when he liked play an equally good rubber of whist or racquets, would have probably been dubbed by his companions—what Dogberry so lamented was not "writ down." He had seen a certain amount of active and a good deal of foreign service, and although his commanding officers may not have particularly liked him, they never found fault with him.

Miss Wylde, as a matter of course, knew of these things, and long before the day of her immersion had secretly admired the apparent indifference shown by this curious Captain Dorman to all those things which formed the only topics of conversation of her many friends. But she had seldom seen him, and had never spoken to him before that eventful morning.

Soon after Colonel Dropper had heard the story of the pond everyone had heard it. Colonel Dropper being on half-pay had plenty of time on his hands, and ample leisure to attend to other affairs than his own. He was an ubiquitous man, and, in spite of having nothing to do, a very busy one. His capabilities of picking up news early were only equalled by his powers of dispensing it rapidly. A very useful man was Dropper in the garrison, and a great trouble was Mrs. Dropper to the census.

"Have you heard the latest about Dorman?" asked the fat little Colonel of everyone he met. "No? why, they say that Miss Wylde in a passion threw that dog that Bowles gave her—I suspect there is something coming off between those two—into a pond, and that Dorman fished him out, and then that she herself walked deliberately into the water, simply to annoy her poor old father. Oh! it's all over the place. Bowles is wild about it, I believe."

"Wylde won't be Bowles then, if that's the case," remarked Merrithort, when he heard the Colonel's story.

"Ha! ha!" laughed the Colonel boisterously. "Very good; very good indeed; yes, I'll remember that. Good morning, Merrithort. I've to go and see Mrs. Spreditt"; and away hurried the gallant Colonel to tell his story to Mrs. Spreditt, before Mrs. Spreditt should have a chance of telling it to him.

When the jovial Merrithort next saw Dorman, he hailed him as the "Peg preserver," and made sundry allusions to "ducks" and "duck-ponds," which witticisms Dorman accepted with much show of philosophic calm, but in his heart he cursed Miss Wylde, her silly old father, her dog and all that was hers, for he was annoyed to find that in a very few hours all kinds of distorted versions of the occurrence were in circulation.

"It's too bad of old Dropper," said Mr. Bowles to his friend, when he had heard the Colonel's story from Mrs. Spreditt, and the truth from Dorman. "It's too bad, upon my word it is. When are you going to call?"

"I don't see the necessity of going at all," replied Dorman.

"It will be rather rude if you don't," objected Tommy, opening his blue eyes and looking wonderingly at his friend.

"I didn't say I shouldn't; I said I didn't see the necessity."

"Oh!" said Tommy, slowly, as if uncertain of the other's meaning. He was a slow man, and liked to

think things out. Apparently he was not satisfied, for after a pause he continued :

"I don't know why you should not wish to go ; Miss Wylde is an awfully nice girl—besides, you saved her life."

"Pooh !" interjected Dorman.

"Well, any way, she is sure to think so. Everyone knows her ; why should not you ?"

"For that very reason, perhaps, Tommy."

"That is not kind," said Tommy reproachfully.

"No, it isn't ; you are right. I will go, and go at once."

Dorman's call did little to alter the unfavourable opinion he had always entertained about the Wyldes. Mrs. Wylde's manner at first surprised but soon annoyed him. She received him lying down, and, after a very brief apology for doing so, shut her mouth with a snap that indicated an intention not to open it again unless she were obliged ; nor did she, except once, when she calmly corrected a misstatement made by her visitor, and once again, when she requested her husband to ring the bell, that her visitor might be attended to the door.

The General, it is true, received him with effusion ; but this necessarily soon subsided into an idle interchange of commonplaces. Miss Wylde herself was silent, and, as he fancied, ill-humoured.

When Dorman rose to go he was surprised at Meg's following him to the door, and whispering to him : "You will come and see us again, won't you, Captain Dorman ?"

"That's a rum girl," he said to himself, as he slammed the little iron gate of the General's front garden. He was not altogether pleased ; the coolness of his reception had rather annoyed him.

On his way back to the barracks he met Colonel Dropper. The Colonel stopped him ; he stopped everybody.

"How do, Dorman ?" he shouted ; "what is all this I hear about you and Miss Wylde ?"

"Everything there is to be said, I expect, Colonel," replied Dorman, courteously.

"They say you saved her life."

"I've no doubt they do."

"But is it true ?"

"Why, no, it is not," said Dorman, blandly.

"But didn't you pull her out of a pond or something ?"

"Well, no, not exactly," said Dorman again, thoughtfully.

"You pulled her dog out then ?"

"Not quite that, either."

"She did then."

"Oh, no ; she didn't."

The Colonel's curiosity got the better of his tem-

per. "God bless the man !" he exclaimed, "what did happen then ?"

"Do you want to know ?"

"Of course I do."

"Why didn't you say so, then ?"

"Well ?"

"Well, I've clean forgotten. But I must not keep you idling here, when I know how busy you are. Good-bye, Colonel."

Dorman nodded pleasantly, and went on his way rejoicing. "I owed you that, my friend," he muttered to himself when he was out of ear-shot.

Dorman took a circuitous route home, but walking hurriedly, as was his wont, he reached the barracks within an hour. On the neatly trimmed lawn in front of the mess the band was playing, and a number of people were promenading, watching tennis, gossiping, and otherwise disporting themselves according to the weekly custom of the place.

"Tommy," said Dorman, when he had discovered that gentleman, who was swathed in flannels and perspiring freely after a victorious set ; "Tommy, I have paid your call."

"Yours, you mean. Well, how did you get on ?"

"As fast as a mute at a funeral ; and the call generally was about as stiff and cold as the corpse."

"Did not Miss Wylde thank you ?"

"Assuredly. She said I was a cool hand."

"If she said so, she thought it," said Tommy, dogmatically.

"You are a judge of human character, I perceive, Tommy."

"No I'm not," returned that gentleman, bluntly ; "I like the girl and don't like to hear people abusing her."

"I am not abusing her ; I think her a thoroughly good girl, and with a little home management she could be made a thoroughly nice girl—mark the distinction. If she were a filly, however, instead of a Phyllis, I think she would buck, rear, kick—run away even, but she would never shy."

"I don't know what you are talking about," said Tommy, truthfully ; "I sometimes wish you would not be so beastly mysterious."

Dorman laughed and proposed a stroll before dinner, but Mr. Bowles excused himself on the plea that he wanted to watch the tennis. The truth was that he knew Miss Wylde was going to play, and Tommy took much interest in all that young lady's movements.

While the pair were talking, a general movement among the company, a transportation of chairs and signs of universal attraction toward a common centre, indicated that something of unusual interest was going forward at the other end of the green. Dorman asked what it was. Bowles explained.

The final tie of the ladies' singles in the tennis tournament was to be played off; Miss Wylde and Miss Skinner were the champions; betting rather favoured Miss Skinner; but the general opinion was that it would be a tough match; to be decided by the best out of five sets—too much for women.

Mr. Bowles's explanation brought them to the scene of the struggle, where the game had already commenced. Dorman watched the play, at first with indolent apathy, but by degrees with increasing interest.

Meg was by far the prettier player of the two, and had won a couple of sets out of hand; but Miss Skinner, a thin, wiry young lady, some five years Meg's senior, was no mean adversary. She played an up-hill game well, and snatched the third set out of the fire.

As the ladies changed sides, Dorman noticed that the colour had left Meg's face, whereas Miss Skinner's was aglow with hope, and even confidence.

"One all; two—one; three—one; four—*one*," called the umpire. The game was going against poor Meg.

A ball rolled to Dorman's feet. He picked it up and instead of throwing it back into the court, waited until the end of the game, when he gave it into Meg's hand. As he did so he whispered:

"Let her win this set; reserve yourself for the next."

Meg looked at him for a moment in surprise.

"I might win if I played up," she said.

She was very much in earnest.

"Take my advice and don't try. She will just beat you, wear you out, and win the next easily."

The game proceeded. Interest was taken in every stroke, and the partisans of each young lady applauded vigorously. Miss Skinner's admirers were exultant; she was playing up splendidly, they said. She was playing like a brick wall; everything rebounded off her bat with fatal monotony. Miss Wylde had lost heart evidently; she scarcely troubled herself now to move from the central position she had taken up, and only returned such easy strokes as came within her reach.

"I thought there was more pluck in her," said Major Fussy.

"Forty—fifteen," cried the umpire.

"She hates being beaten," said Mrs. Dropper.

"And is sulking," continued Mrs. Skinner.

"She'll win yet," cried Tommy Bowles.

"Five to four she don't," shouted Colonel Dropper.

"Taken in sovereigns," said Dorman, coolly.

The Colonel looked annoyed.

"Did you hear that?" asked Mrs. Spreditt of her neighbour, Mrs. Small.

"I cannot bear that supercilious Captain Dorman," was the muttered reply.

"Nor I; you never know what he means."

"He means mischief, my dear. There is a great deal

more in that pond story than ever came out." And Mrs. Small nodded her head mysteriously.

"Do you think that she knew Captain Dorman was close at hand?"

"I don't know what to think; but they do say—but there, it is no business of mine. Mr. Bowles must be brought to the point somehow, you see."

"She is such a tom-boy," said Mrs. Spreditt; "she would do anything."

"Horrid!" ejaculated Mrs. Small.

"Men don't like that kind of thing. I'm always telling her so."

"It is a pity her mother is such a sad invalid."

"And her father an old goose."

"They have literally no control over her, I believe," continued Mrs. Small, who was a pretty little woman and liked dancing. "She ran away from school, did she not?"

"Game and set," said the voice of the umpire. "Two sets all."

"I believe so; but see! they have begun again."

"Upon my word, I believe she has no stays on. It is positively not decent."

It very soon became apparent to the interested witnesses of the "final tie" that Miss Wylde had plucked up heart of courage. She played stroke after stroke, that called forth the plaudits of her friends, and caused the cautious Miss Skinner to undergo an immense amount of exercise. Meg soon put three games to her score, and her adversary began to look serious as well as astonished. The tactics Dorman had advised were being attended with success. He noticed, too, the compressed lips, the earnest expression, and the panting breast of Meg with wonder, and asked himself, was so little worth so much?"

"If her strength holds out she will win," he muttered again, when the voice of the umpire had called, "Four—Love."

In spite of himself he was becoming greatly interested.

"Four—one; four—two; four—three; five—three," droned the voice at intervals.

"Only one more, but she must pull herself together," thought Dorman.

"Forty—love; forty—fifteen."

"It's all up," he was saying to himself, when he became aware that Meg was looking at him rather piteously. Scarcely knowing why he did so, he frowned and shook his head. She seemed to understand, for she nodded slightly and smiled.

"Game to Miss Skinner!" cried the umpire.

"Five—four."

"A very sultry evening, isn't it? How is Meg getting on?" Dorman turned his head and beheld the beaming countenance of General Wylde.

"Very," answered Dorman. "Your daughter will win if she can only *stay*, as they say of horses."

"Bravo! Good stroke!" shouted the by-standers

"Well served!" roared Tommy Bowles, excitedly.

The imperturbable umpire said, "Forty—thirty."

"Only one more stroke and she wins," explained Mr. Bowles for the General's information.

"Deuce," called the umpire.

"Two more now," continued Tommy, correcting himself.

"Good! Bravo! Her 'vantage!'"

"Out! In! Out!" was now heard on all sides as a hard return of Meg's struck the ground dangerously close to the boundary line. And then there was silence; all eyes were upon the umpire.

"In," decided that functionary.

Meg turned her eyes to where Dorman had been standing, but he was gone. She then walked slowly across the court, and addressing her late adversary, said, "You played better than I did; you won—really. Another game and I—oh! dear—everything is going round—" Miss Skinner held out her arm; Meg seized it and sank on the ground. She had fainted.

"Played till she dropped, by gad!" said Tommy Bowles to Dorman, describing the occurrence afterwards.

"I thought she would," said Dorman. "Don't they call her Grit?"

"Her father does sometimes, I believe."

"The name suits her, Tommy." And for the second time in their short acquaintance Dorman called Miss Wylde "a plucky girl."

NAVAL AND MILITARY NOTES AND QUERIES.

THE FEUDAL SYSTEM.—(Continued from p. 390.) and his eldest daughter was married; and to contribute to his ransom in case he was taken prisoner in war. In return for these services the lord was bound to afford his vassal protection in case of his fief being attacked; whilst the defence of each other's person was reciprocal. The natural consequence of this was the system called *sub-infeudation*, by which the immediate holder parcelled out portions of his fief to others on the same conditions of tenure by which he held it himself. These sub-tenants owed to him the same duties which he owed to his lord; and he held his own court of justice, in which he exercised jurisdiction over his vassals. The few lands that remained free, that is, which were not bound to render service to a superior lord or suzerain, though liable to burthens for the public defence, were called *allodial* in contradistinction to *feudal*.

The ceremony by which the vassal acknowledged his feudal dependence and obligations were called *Homage*, because the vassal became the *man* of his lord. Homage was accompanied with an oath of fealty on the part of the vassal, and investiture on the part of the lord, which was the conveying of the fief by means of some pledge or token. Homage was of two kinds liege and simple. Liege homage not only obliged the liege man to do personal service in the army, but also disabled him from renouncing his vassality by surrendering his fief. The liege man took the oath of fealty on his knees without sword and spurs, and with his hands placed between those of his lord. The vassal who rendered simple homage had the power of finding a substitute for military

service, or could altogether liberate himself by the surrender of his fief. In simple homage the vassal took the oath standing, girt with his sword and with his hands at liberty.

The aristocratical nature of feudalism will readily be inferred from the preceding description. The great chief, residing in his country seat, which he was commonly allowed to fortify, lost, in a great measure, his connection or acquaintance with the Prince, and added every day new force to his authority over the vassals of his barony. They received from him education in all military enterprises; his hospitality invited them to live and enjoy society in his baronial hall. Their leisure, which was great, made them perpetual retainers on his person, and partakers of his country sports and amusements; they had no means of gratifying their ambition but by making a figure in his train; his favour and countenance was their greatest honour; his displeasure exposed them to contempt and ignominy; and they felt every moment the necessity of his protection, both in the controversies which occurred with other vassals, and, what was more material, in the daily inroads and injuries which were committed by the neighbouring barons. From these causes not only was the Royal authority extremely eclipsed in most of the European States, but even the military vassals, as well as the lower dependants and serfs, were held in a state of subjection from which nothing could free them but the progress of commerce and the rise of cities, the true strongholds of freedom.

ROBERT O'BYRNE.

RAPID FIELD-SKETCHING AND RECONNAISSANCE.

BY CAPTAIN WILLOUGHBY VERNER, RIFLE BRIGADE.

PART II.



FIELD-SKETCHING may roughly be divided into two distinct branches, namely—(1) sketching *with*, and (2) sketching *without* the aid of maps. It is the custom for many men to summarize the first-named process as "cribbing" or "fudging," and to affect to look down upon work executed in this fashion. This, however, is absurd, and for the reason that, to obtain full advantage from a map, and to be able to rapidly and correctly seize upon and amplify the points affecting military operations requires an amount of practice skill and knowledge, which is probably quite beyond the understanding of those who condemn broadly "the use of maps." The main practical advantages of using a map are, firstly, the saving of labour caused by having the distances and directions already measured and noted; and, secondly, the excellent practice in map-reading, which is to be obtained by constantly referring to and verifying a map. It is a popular belief that every officer in the army is qualified to go abroad garnished with sketching paraphernalia, and is competent to make a sketch of anything, anywhere, "without the assistance of a map"; and, further, that the fact of his being able to do so stamps him as a man fit for his position. Every possible precaution is also generally taken to prevent officers using maps when employed in making military sketches. In this wild zeal to cut away all chance of deriving assistance from maps, men are effectively prevented from becoming acquainted with their use. It is very certain that the vast majority are unable to execute a really useful sketch, and it is still more certain that for one man who may be required to *make* a map, a score are certain to require to *use* one. If, then, we make it our aim to teach men to work without maps, how are they ever to become experienced in using them? In the case of an army in the field, it is an undeniable fact, that nine times out of ten, a map of some sort or other is forthcoming, no matter what country even a British army may be operating in, hence the art of map-making is now-a-days far less important than the art of map-using, and I am profoundly convinced that the latter is an accomplishment which it would be a good thing to make more general in our service.

In other words, some sort of system should be introduced so that in the event of a man becoming possessed of a map of the country, he would know at once how to obtain the greatest amount of assistance from it.

No matter how expert a sketcher an officer on a reconnaissance may be, if his whole mind and energies are taken up with the sustained effort of constantly keeping a record of his distances and of observing his directions in a hurry (in other words, with inaccurate surveying processes) he cannot be in a fit mental condition for rapidly grasping and noting all the points of tactical importance which are really the main objects of his work.

When I talk about the assistance of maps, I do not refer to that sublime process of tracing the six-inch ordnance maps, which is occasionally the preliminary stage of some military sketches, and in which fences and woods which have long since been levelled, roads which have been closed for years, and, lastly, "undefined" Parish or Parliamentary boundaries which have never visibly existed, are all reproduced on paper in glaring relief.

My contention is that on the good old rule that practice makes perfect, if it is to be insisted that men are always to work without maps, and if they really endeavour to do so, they will spend all their available time in what I have termed inaccurate surveying processes to the exclusion of everything else. Whereas if they are provided with the data as regards distances, &c., which can be obtained from a rough map, and are permitted to devote all their energies to the tactical features of the ground, &c., they are being trained in the truest sense in reconnaissance duties.

By providing them with these data, I mean nothing more nor less than by causing each man before he starts on a day's work to make an enlargement, in England from the one-inch Ordnance map, or abroad, from anything he can lay his hands upon, and with this as a basis, walk or ride along the route, fill in all the tactical features and write on the margin of his sketch any information he can obtain. By this means, in lieu of a sketcher being restricted to three or four miles on foot or eight or nine miles on horseback per diem, he can sketch and report upon double or treble that distance, and I maintain that a man's perceptions and faculties of observation are more rapidly and thoroughly trained by this process than by twice the amount of time occupied in painfully carrying out the already-named measurements.

Not only is this style of work excellent for instructional purposes, but it is one that is constantly applicable to real work in the field, and is in fact, the only rational

method of conducting the complete reconnaissance of a line of advance in a civilized country, where maps would almost invariably be available.

On such occasions the maps would supply the distances and relative positions of towns, cross-roads, &c., whilst the reconnoitring officer on his enlarged map would note the state and width of the roads, the bridges, camping grounds, water supply, &c., and especially the tactical features, such as good advanced guard positions,

that if any given reconnaissance were carried out with reasonable rapidity it would be absolutely impossible for the most expert sketcher, unless he were provided with a skeleton route, to keep up with the troops thus engaged. Hence the necessity for a system of "sketching with the aid of maps."

Before entering into any detailed instructions with regard to sketching either with or without the aid of maps, it will be necessary to explain fully the methods

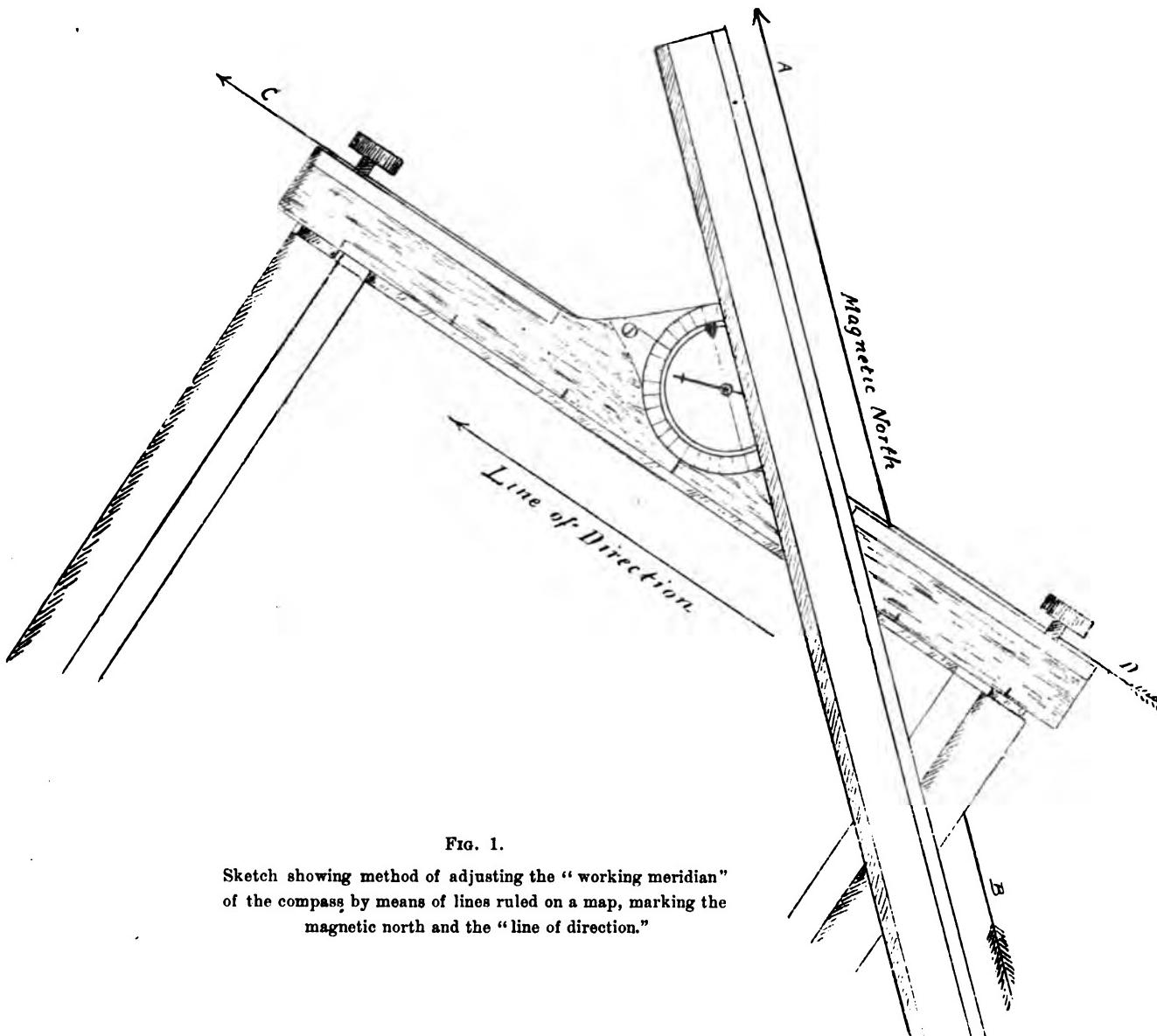


FIG. 1.

Sketch showing method of adjusting the "working meridian" of the compass by means of lines ruled on a map, marking the magnetic north and the "line of direction."

favourable ground for outpost lines, for holding the enemy in check, or which, on the other hand, would be advantageous to the enemy should he occupy them.

It must be plain to everybody that this class of information, if given on a fairly accurate map such as an enlargement, would be far and away more useful and easy to grasp than a mere written summary or description of the country traversed, and it is very obvious

of setting the cavalry sketching-case by means of the working meridian. I have already briefly alluded to this process in my first article. I now propose to discuss the matter at length, since the degree of ease and accuracy with which any work can be executed depends in a great measure on the careful adjustment of the compass. Of course, when sketching without maps the whole operation is dependent upon the compass, but it

is also very obvious that it will be an immense assistance to a sketcher who is working with the aid of a rough map fixed on his board, if the working meridian be so adjusted that he can "set" this map at any required instant.

This adjustment of the meridian had best be done before starting, but it can also be done in the field when opportunity offers. For the latter process, it is necessary to note some well-defined line, such as a straight bit of road or railway, or to observe the direction of any prominent object from the position of the sketcher (both of which points must be recognizable on the map), and to "set" the board in its relative position to the ground by laying the straight edge on the observed line on the map, and turning the latter until the ruler is found to be aligned in the direction of the objects themselves. The working meridian is then set by turning it

meridian is then adjusted parallel to the line representing the magnetic north, by means of the eye, aided by the straight edge laid across the compass. Care should be taken that the end of the working meridian intended to be on the north side be placed there, as shown in the figure.

This being done, it is evident that the board can be set at any time by revolving it on its pivot until the magnetic needle coincides with the working meridian, as in Fig. 2. The bearing of the line of direction can be *approximately* noted from the graduated compass collar to be a little over 40 degrees west of magnetic north (see Figs. 1 and 2).

It will be noted that the foregoing process starts with the assumption that the magnetic north is given or can be accurately protracted and laid down on the map. This would generally be the case, but in the absence of

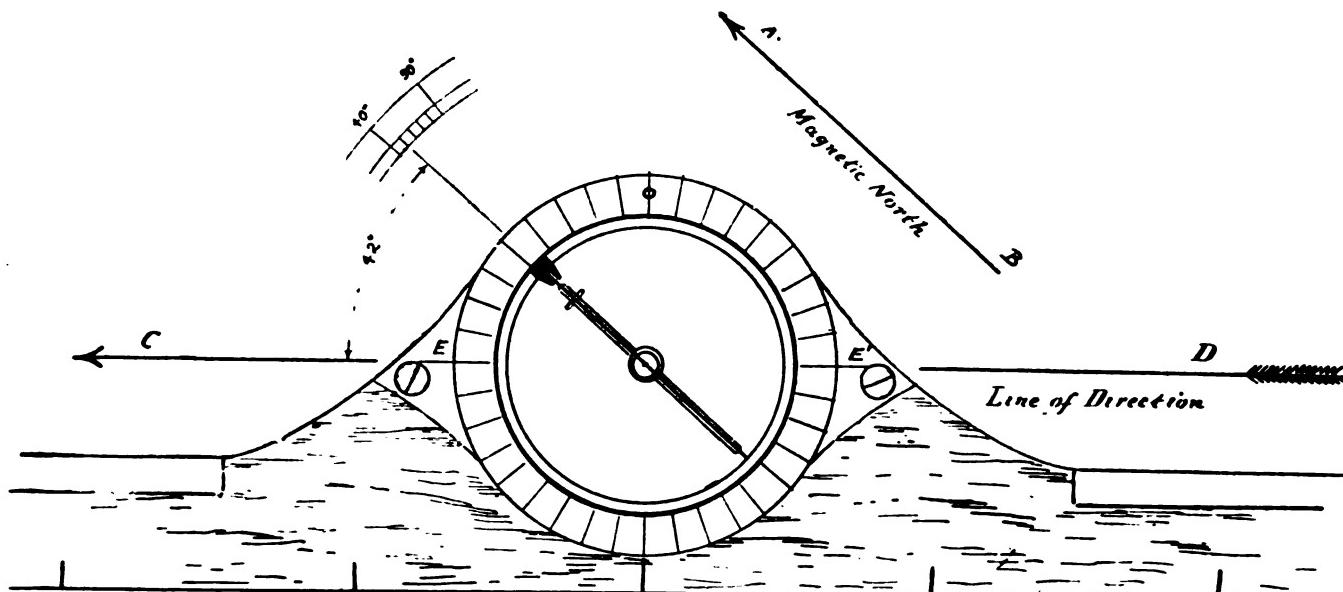


FIG. 2.—Sketch showing graduated compass ring, with method of adjusting the "working meridian" and magnetic needle for a bearing of N. 42° W.

round until it coincides with the magnetic needle, and the board can be similarly set at any subsequent time by revolving it on its pivot.

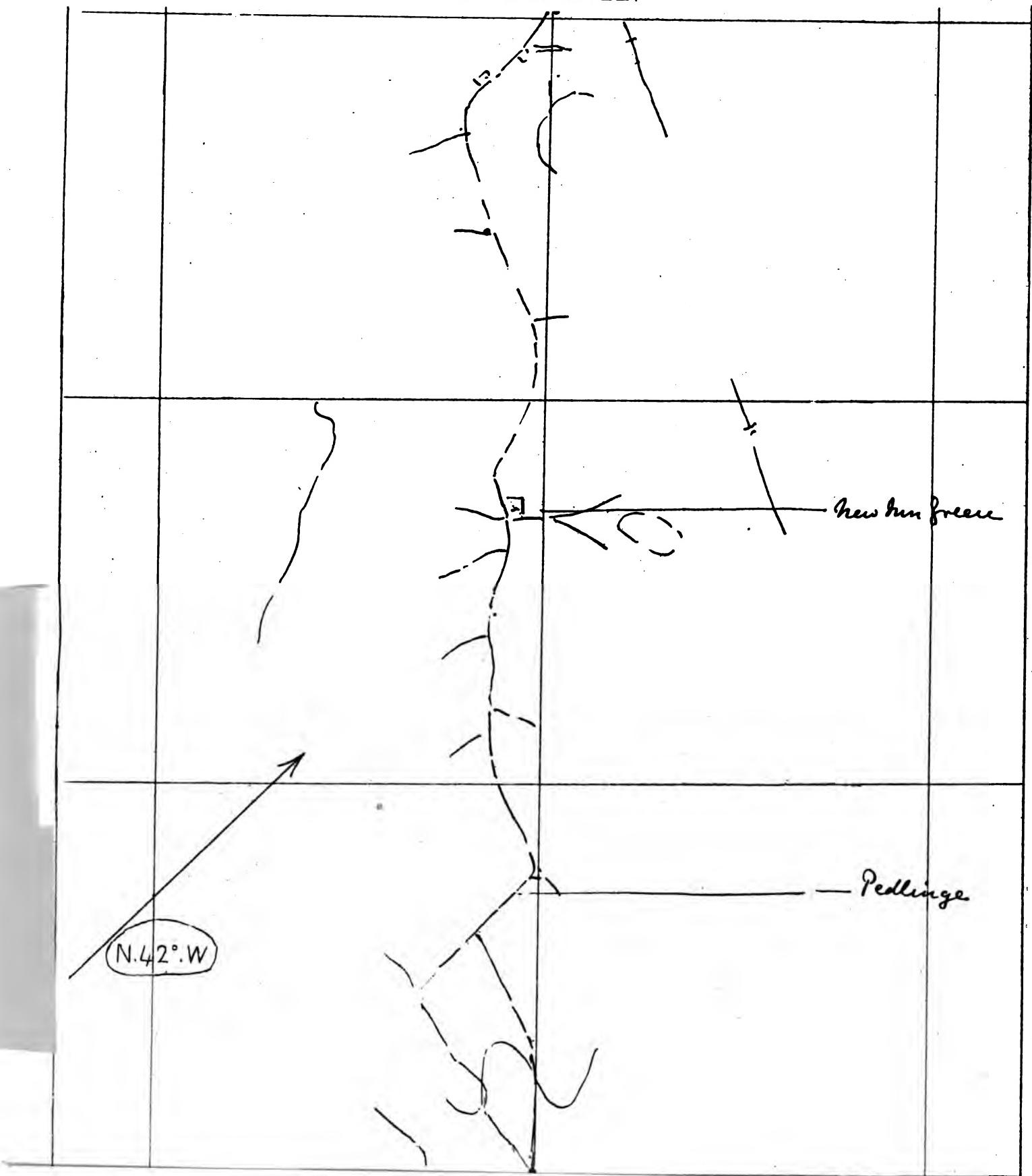
A good way of setting the working meridian by means of the map before starting, provided the magnetic north has been given or marked off by means of the protractor, is to rule a line indicating the magnetic north, as AB in Fig. 1, and another showing the general direction of the route we wish to follow, as CD, and which I will call the "line of direction."

Since the longer graduations on the compass ring, as at EE' in Fig. 2, are truly parallel to the head-piece and foot-piece—that is, to the line of direction—it is convenient to always regard these as marking the general line to be followed. The sketching-case is now laid on its back, with the outer edge of the head-piece, as in Fig. 1, along the line of direction CD, the working

a protractor the one on the sketching-case could be utilized. Perhaps, however, the most accurate method of setting the working meridian and, at the same time, ascertaining and recording the bearing of the line of direction, is to lay the sketching-case on its face, with the inside edge of the foot-piece along that margin of the map which happens to be most convenient for the purpose. The angle which the "line of direction" makes with the margin can then be noted by means of the protractor screwed on the back of the board, the eye being guided by the ruler laid across it as shown in Fig. 3.

This figure gives a rough representation of the upper portion of Sheet 305 of the 1-inch Ordnance Survey, on which I have marked the position of Hythe and the line of direction from that town to Ashford, also the main road and railway. In this instance it is

FIGURE 5. SKETCH SHEWING SKELETON ROUTE OF ROAD FROM HYTHE
TOWARDS ASHFORD, ENLARGED FROM ONE INCH ORDNANCE MAP, AT
A SCALE OF THREE INCHES TO A MILE.



國語辭書



most convenient to adjust the sketching-case along the top or north edge of the map, as shown in the figure, and it will be seen that the angle made by the line of direction with the margin is about 80° , that is to say, 80° south of true east, which is equivalent to 60° west of true north, or allowing 18° for magnetic variation, we get $60-18$, that is, 42° west of magnetic north, or N. 42° W.

This, then, is the "bearing" of our line of direction when proceeding from Hythe to Ashford, and the working meridian should be adjusted as before, a shade over the fourth graduation to the right of E in Fig. 2, thus marking the position the needle will occupy when the board is "set."

The preceding process, although somewhat troublesome to describe is in practice, a very simple matter,

before the magnetic north has been marked on it, it is easy to ascertain the latter. An almost equally good plan is to rule a line on the sketch to mark the position of the working meridian.

In order to make it clear to my readers what I mean by sketching with the aid of maps, we will suppose that it is desired to make a reconnaissance of the road from Hythe to Ashford, and that no instruments are available beyond a cavalry sketching-case, also that we are provided with the one-inch Ordnance map. It will be sufficient for my purpose if we take the first three miles of the road from Hythe, and I annex a rough copy of that portion from the one-inch map, (Fig. 4). I may mention here that the great difficulty which presents itself when using one of these maps for deciding on any particular route, is the impossibility of deter-

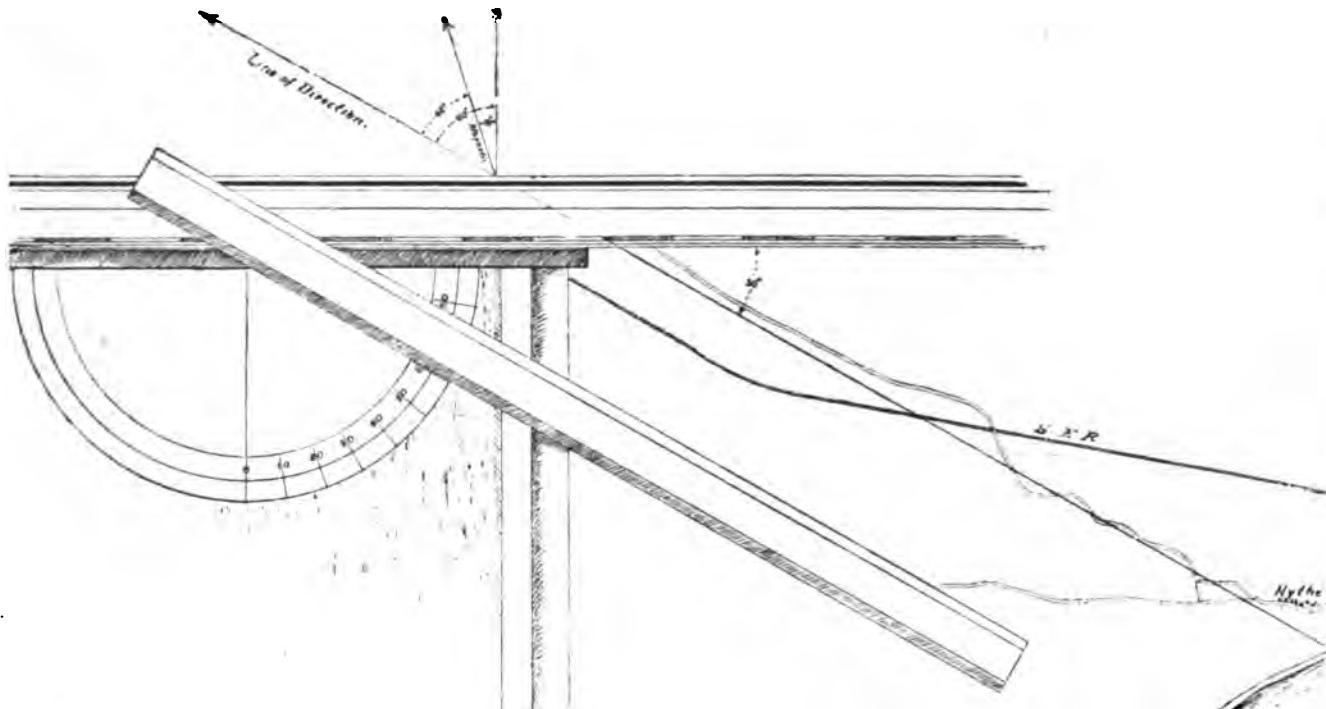


FIG. 3.—Sketch showing method of ascertaining the magnetic bearing of the "line of direction" on a map. The sketching-case has been drawn somewhat to the left of the position it should be in, for the sake of clearness.

which can be learnt in a moment from actual experiment with a map and board. The annexed diagrams (Figs. 2 and 3) will, I trust, sufficiently explain what I mean. The process, like most of the others with the cavalry sketching-case, is a little rough and ready, but I have found from practice that it is perfectly easy to ascertain the magnetic bearing of any "line of direction," and to adjust the working meridian in this manner, with *sufficient* accuracy for the work in hand.

It is a good precaution to note on the sketch before commencing work, the magnetic bearing of the "line of direction" thus, "N. 42° W." The object of this is, should the position of the working meridian be accidentally altered or the sketch be taken off the board

mining from an inspection of them which roads are metalled, and which are merely grass tracks or disused bye-roads, unfit for the movement of troops on the march. If the rough copy I have made be compared with Sheet 305, it will be seen that I have omitted a mass of detail, and merely given the roads as they appear, and yet, as will be shown presently, only one of these roads is really fitted for the movement of any considerable number of troops.

The first thing to be done is to rule a line on the map from Hythe to Ashford. This will give us the general direction we wish to follow, that is the "line of direction"; next draw lines parallel to it on either side at a distance of one inch, and lines at right angles across

these three also one inch apart. The map will now be divided into one-inch squares as shown, and it is almost unnecessary to say that this can be done with the aid of the straight edge, and the graduated foot-piece of the board.

We will assume that we wish to make a report and sketch of the road on a scale of three inches to a mile; since the distance from Hythe to Ashford is about ten miles as the crow flies, we take a strip of paper about 96 inches in length, and as wide as the board will carry,

the corners turned down and pressed flat so as to facilitate the process of attaching them to the rollers.

Care must also be taken that the ends are inserted truly square, so as to ensure the paper laying flat on the board. This is easily done by adjusting the edge of the paper lengthways, parallel to the head-piece or foot-piece, before commencing to roll it up.

The paper is now on the board, and should be "over-hauled" on the rollers until the bulk of it is on that roller which lies on the side of the board towards which

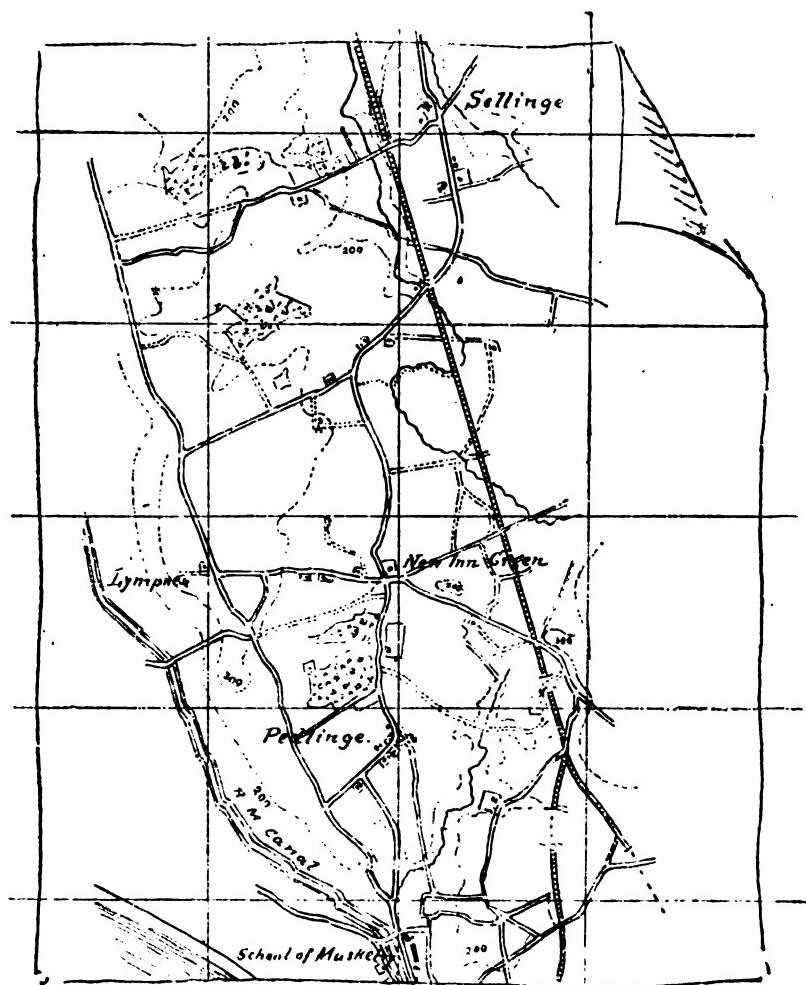


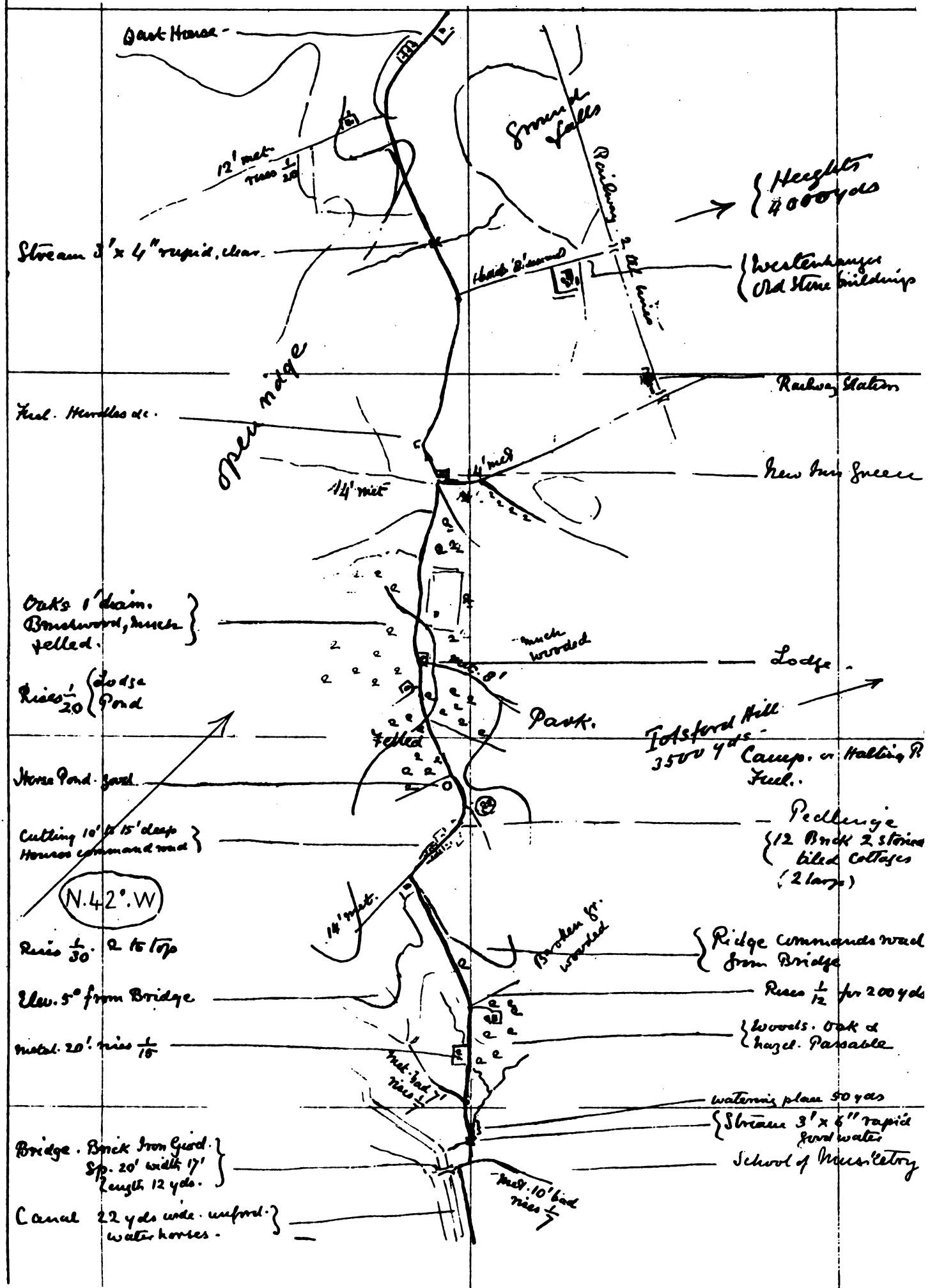
FIG. 4.—ROUGH SKETCH REPRESENTING ONE-INCH ORDNANCE MAP.
With divisions of one inch square.

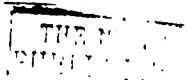
viz. $7\frac{1}{2}$ inches, and rule a line right along its centre, and others parallel to it on either side at a distance of three inches. The paper is now placed on the board as follows: one end is inserted into the narrow slit in the roller, and the paper wound round it so as to take up as much as may be required, this roller is then clamped by a turn of the screw, and the other end of the paper inserted in the opposite roller and wound round it, and as soon as all the slack paper is thus taken in, also clamped. It will be found a good plan to have the ends of the paper clean cut with a sharp knife and

we propose to work, in the present case on the Ashford side. The three-inch squares are now completed by laying the ruler across the board between the graduations on the head and foot-piece, and ruling lines at every third graduation.

We now have our one-inch Ordnance map divided into one-inch squares, and the paper on our board divided into three-inch squares, and with a little care and judgment it is an easy matter to rapidly transfer the general direction of the road, and the positions of cross-roads, villages, or conspicuous points on an en-

FIGURE 6. SHEWING THE SKELETON ROUTE IN FIGURE 5, WITH THE ADDITIONS AND MARGINAL NOTES MADE IN THE FIELD DURING THE RECONNAISSANCE





AUG 19 1968
LIBRARY

larged scale from the one-inch to our three-inch map. Here, again, a good eye for drawing comes into play and enables a man to rapidly estimate whether a road cuts one side of a square in the middle or at one third, one quarter, or less, of its length.

Annexed is an enlargement (Fig. 5) supposed to be drawn with a hard pencil such as an H or HH, and which gives an exact facsimile of the skeleton route enlarged from the one-inch map, as it appears on the cavalry sketching-case before starting on the reconnaissance of the road.

In all mounted work with the sketching-case where distances have to be accurately measured it is necessary to construct careful scales of the paces of one's horse, and mark them off on the ruler carried. In the present instance as we are dealing with the simplest form of sketching with the aid of an enlargement from a good existing map, I shall not complicate matters by referring to these scales. All then that is required is to mark off a certain number of "hundreds of yards" at a scale of 3" to a mile on the ruler, and to bear in mind that an ordinary horse covers about three yards of ground every time the rider rises in the saddle when at a trot. The object of this is, if any small detail has to be added to the enlarged map, its distance can be approximately measured from some known point by counting the number of "trots."

In marking off the yards on a ruler, it is always well not to number them, but to mark off a good number of "hundreds" all along it so that at whatever point it may be adjusted on the sketch, it is easy to count from it. We will now start on our ride, the sketching-case strapped on the left wrist over the sleeve, the ruler stuck in the right boot, and the pencil in the hand or hold-all.

Commencing at the cross road at the west end of the School of Musketry, Hythe, we note on the margin of the sketch, the width of metalled portion and the condition of the roads; the length, width, span, height, and construction of the bridge across the canal at that point, &c. &c. The gradient of the road and bye-roads is also noted on the sketch, and the stream by the road-side looked at with an eye for "watering arrangements." The fact that the heights about Pedlinge command the road is noted. The general gradient of the road followed is about $\frac{1}{15}$. The scale of horizontal equivalents for 30 ft. contours at 3" to a mile, being engraved on one of the metal shoulder-pieces of the board can be marked off on the ruler or transferred by eye to the sketch with a little practice. The hill leading to Pedlinge is about 1,200 yards long, and since with a gradient of $\frac{1}{15}$ there is a contour every 150 yards, we get a rise of about 8 contours or 240 ft. The crest line is drawn in by eye as shown, and turned on either side so as to give the idea of a road going up a ravine-head. The latter

part of the road ascends at a gradient of about $\frac{1}{3\pi}$. Arrived at the cross road it is seen that the ground to the south rises for about a quarter of a mile at the same slope, hence another contour is put in to denote the top of the hill and any necessary information marginally noted. Our road now turns sharp to the north and enters a cutting, at the end of which lies the small hamlet of Pedlinge.

We note that Pedlinge itself is of no great tactical importance; but the ground around it is commanding, and an advance-guard holding the village could offer some resistance to a force advancing from the north. The general nature of the country, however, is much intersected, and there would be considerable danger from out-flanking enterprises on the part of the enemy.

The rest of the sketch and notes are carried out on precisely the same lines, a comparison of the three stages will explain the way it is done better than writing.

Fig. No. 6. shows the "skeleton route" which has served as our guide along the road and on which we have drawn in some detail and made various notes. Fig. No. 7 shows the sketch when cleaned up and generally "worked out" from the notes on our return from the reconnaissance. The last is not to be taken as a model of what can be done in this line, since it is far from being an accurate or full reconnaissance of the portion of the ground in question; but it has at least the merit of being a fac-simile of the original sketch done against time, and not since corrected. As such, I believe it to be more useful as an example of this class of work than if it had been worked up to a high state of perfection indoors.

As an example of what can be done by trained men in the way of sketching with the aid of maps I will briefly here describe a reconnaissance which was carried out in the South-Eastern District last year by a small party of cavalry, consisting of 1 officer and 6 non-commissioned officers and men of the 14th Hussars. One of the latter led a spare horse which, however, was not wanted, as events turned out. Each man, who had been previously thoroughly practised in sketching in this manner was provided with a hektographed skeleton-route of the road from Folkestone to London at a scale of two inches to a mile, and a cavalry sketching-case upon which each section of the road was fixed, as required.

The "general idea" was that of an officer's reconnoitring patrol, such as would be sent out on active service by the general commanding the cavalry covering the advance of an army from Dover on the Capital, with the object of reporting on the road and general nature of the country, and more especially noting the points of tactical importance, such as advanced or rear-guard positions, favourable outpost lines, &c., &c.

The orders were to reconnoitre, as far as possible, towards the Capital and to return with all speed with the

information obtained to Shorncliffe, where head-quarters were supposed to be established.

We left Sandgate (one mile west of Folkestone) at 6 A.M. on 28th March, and sketched and reported on the road to Maidstone, *via* Ashford, a distance of about thirty-three miles, arriving there at 5 P.M.

On the following morning we left Maidstone at 7 A.M. and reconnoitred, *via* Wrotham, Farningham, and Eltham, up to Woolwich, about twenty-eight miles, marching into that place at 5 P.M. The average rate, including halts, was thus about three miles an hour.

In accordance with the "special idea" of the reconnaissance we started on our return journey next morning at 7 A.M., passing through Maidstone at noon, Ashford at 4.30 P.M., and reached Shorncliffe at 7 P.M., having been exactly twelve hours on the road. Two halts of an hour apiece were made, dividing the journey into three twenty-mile stages. Now, although in this instance some of the men produced most excellent and useful sketches of the whole sixty odd miles, I do not advocate such forced marches except now and again as an experiment, so as to give some data to go upon, should the necessity ever arise.

In an enclosed country like the county of Kent, I believe that twenty miles a day is quite as much as any ordinary skilled draughtsman is able to sketch and report upon with any degree of comfort combined with accuracy, and such "forced marches" as thirty-mile reconnaissances are no doubt a great mental strain on the majority of men. Still it is a good thing to know that thirty miles and more per diem can be done upon an emergency.

I have laid particular stress on the fact that the return journey was effected on the day following the ride to Woolwich since the essence of all such rapid sketching as I advocate is that the information thus obtained should be placed at the disposal of the authorities with the least possible delay. No time should be given for the adornment of the sketches, or for the compilation of long reports. At the end of each day's ride, the sketches should be cleaned up and all information obtained *written upon them*, and if time permits, a brief summary of the more important points noted in the day's work should be tabulated on a half sheet of foolscap and attached to the sketch.

Whether twenty or thirty miles of road are reconnoitered in a day, it is evident that the ordinary form of Road Report is quite out of the question, since it would take hours to compile, and even when compiled, be so bulky as to be useless for rapid reference. Further, information gathered in these rapid reconnaissances is of far too general a nature for such detailed reports as are usually furnished on "Army Form, K. 1305." The work of making and compiling these useful road

itineraries would as a rule be performed by parties detached from the army, whose front was covered by the cavalry screen with which our more rapid reconnoiters are assumed to be moving. These detailed reports, besides entering into all the *minutiae* usually required of them, might also give statistics as to supplies, &c., all of which information is clearly beyond the scope of rapid reconnaissance work.

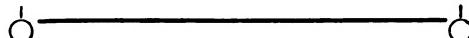
I am not at all settled in my own mind as to how much the brief reports I advocate should comprise, but acting on the principle that any specific orders as to the information to be obtained on a reconnaissance should be specifically carried out; on the occasion of the Woolwich ride I adopted the form of report given below. I should mention that the road was divided for convenience of sketching purposes into four sections of about fifteen miles each, and to each of these sections I attached a half sheet of foolscap with a brief report as follows:—

SECTION III. MAIDSTONE TO KINGSDOWN.			Miles from Maidstone.
1 Positions commanding the Line of Advance.	(1) High downs north of Addington and Wrotham.		9
2 Advanced Guard Positions and favourable Outpost Lines.	(1) Wrotham Heath. (2) Chimham Farm, Kingsdown.		8 14
3 Halting or Camping Grounds.	(1) Ditton (2) Addington Park (3) Half mile S. of Wrotham		3½ 6½ 8½
4 Causes to delay rate of Marching.	(1) Hill out of Maidstone, rises $\frac{1}{2}$ for 800 yards. (2) Hill, Wrotham to downs, rises $\frac{1}{2}$ for 1,000 yards.		0 9
5 General Remarks.	For 7 miles from Maidstone, country much wooded and broken. From Addington to Wrotham the downs command country adjacent.		

March 29th, 1887.

(Signature) Rank and Corps.

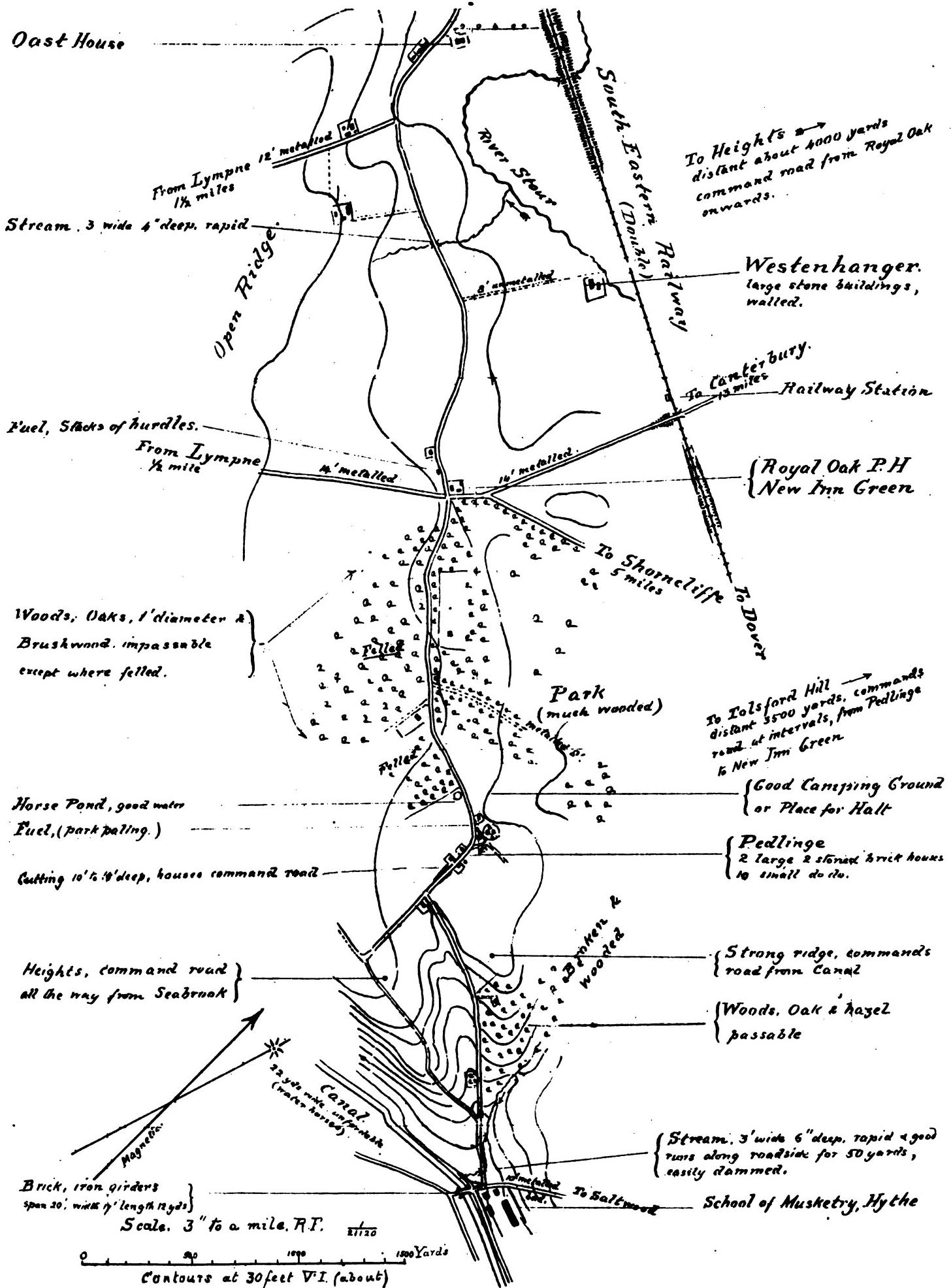
Besides giving all possible information on the sketch itself by marginal notes after the manner already described, we, as it were, emphasized the important points enumerated in paragraph 2 of the Report by drawing a line in coloured chalks across each position in this manner—

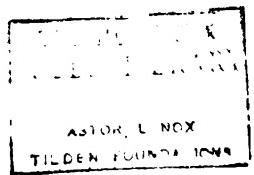


By this means it is made easy for every person opening the map for the first time to rapidly pick out those positions where *some* sort of a view and field of fire are to be obtained, such localities being by no means common in an enclosed country like Kent.

In conclusion, I wish to say that I am far from believing that this style of report has any especial merits; I merely give it as an example of what has been done.

**FIGURE 7. SHEWING THE SKELETON ROUTE IN FIGURE 5, FINISHED UP
FROM THE NOTES MADE IN FIGURE 6.**





THE CONQUEST OF THE PUNJAUB.

CHAPTER IX.

THE SECOND PUNJAUB CAMPAIGN.—GOOJERAT.



HE opposing armies lay opposite each other from the 13th January 1849, the date of the battle of Chilianwallah, to the 13th February. The British troops in their entrenchments at Chilian ; the Sikhs in those of Russoul. On that morning it was suddenly discovered that Russoul was evacuated, but whether the Sikhs had marched was shrouded in mystery. Our Cavalry Brigade had lost touch of them, and our Politicals were, as usual, at fault. The most conflicting stories were extant. Some maintained they had retired on Attock, others that they were endeavouring to work round our flank and reach Lahore. The fall of this place would have been assured could Shere Singh once reach its neighbourhood ; its garrison was all too weak, and its inhabitants fanatically hostile to the English. On the very day that the Sikhs broke their camp, Gough had been reinforced by the 10th and 11th Regiments of Irregular Cavalry, and by that most talented officer Brigadier Cheape, whose engineering skill had contributed so much to the fall of Mooltan. The welcome news also arrived that General Whish's column from Mooltan and Brigadier-General the Hon. R. Dundas' Bombay troops were but a few days' march in rear. Inspired by the news Gough determined on following up the Sikhs, and on learning on the evening of the 13th that they had captured Goojerat, and were presumably heading for Lahore, he despatched urgent instructions to Whish to guard the fords over the Chenaub, whilst he himself gave orders to strike camp, and on the morning of the 14th moved to Lussooree. On the 17th February the army marched to Koonjah, and on the 20th to Shadewal, where it was joined by Brigadier Markham with the 32nd Cornwall Regiment of Foot, the 51st and 72nd Regiments of Native Infantry. On the same day Dundas joined head-quarters with the 60th Rifles, 1st Bombay European Regiment, 3rd and 19th Regiments Bombay Native Infantry, the Scinde Horse, 2 Horse and 2 Field Batteries.

General Whish in the meantime, anticipating the Commander-in-Chief's instruction, had despatched Colonel Byrne with the 53rd Foot, 13th Native Infantry, Holme's Irregulars, and a Light Field Battery to watch the fords in the neighbourhood of Wazeerabad. Satisfied that the enemy could not break away to Lahore, for the bridge of boats at Ramnugger was protected by a power-

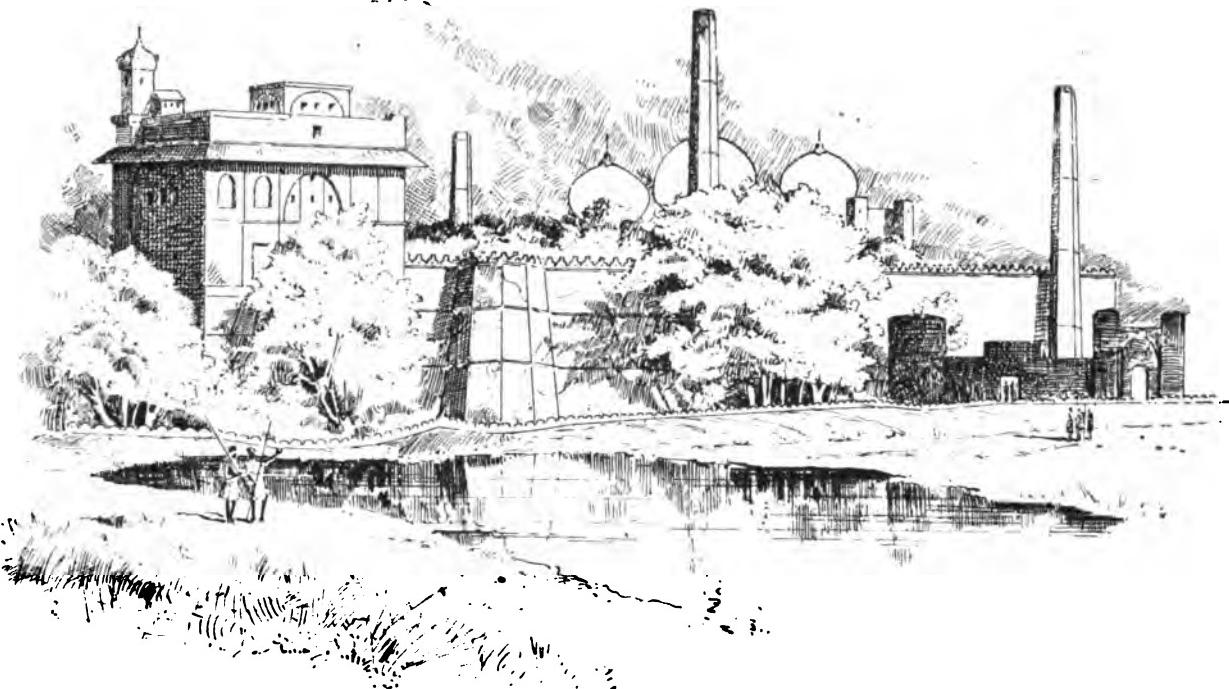
ful *tête du pont*, and confident of the inability of the enemy to stand before his army which now consisted of three regiments of British and nine of Native Cavalry, eight British and fifteen Native battalions, with seventeen batteries of artillery, Gough determined to postpone his attack no longer.

The Sikhs in crossing the Chenaub had determined once more on awaiting the English attack. Their position at Goojanwallah was an unusually powerful one. The dry bed of the river Dwara, a tortuous watercourse nearly surrounding the town stretched in a southerly direction to Shadewal. It was deep, broad, and capable of affording concealment and protection to the Sikh infantry and guns. Besides this, there was a small nullah which, falling into the Chenaub, covered their left. Between these nullabs the ground was level and open, and it was on this smooth plane that Lord Gough determined to conduct the advance of his main body ; the smaller nullah separating Colin Campbell's division from that of Gilbert. After consultation with his subordinate, the Commander-in-Chief determined on advancing in the following order. On the extreme right, Lockwood's Cavalry Brigade, consisting of the 14th Light Dragoons and 1st Bengal Light Cavalry ; on Lockwood's left stood Warner's Troop of Horse Artillery, and on the left of the guns Brigadier Hearsey with the 3rd, 9th, 11th, and 13th Regiments of Irregular Cavalry. Next to Hearsey stood Whish's Division ; Brigadier Harvey's Brigade (the 10th Foot, 8th and 52nd Native Infantry) being in the first line ; Markham with the 32nd Foot, 51st and 72nd Native Infantry being in support. Between Harvey's infantry and Hearsey's horse were posted six batteries of artillery ; those of Fordyce, McKenzie, Anderson, and Dawes being in the first line ; whilst Colonel Brind with the horse batteries of Lane and Kindleside moved abreast of Markham's Cornwall men. Between General Whish and the smaller nullah the ground was filled up by Sir Walter Gilbert's division ; Brigadier Penny's brigade (the 2nd Bengal European Regiment, 31st and 70th Native Infantry) being on the right ; Mountain's brigade (29th Foot, 30th and 56th Native Infantry) on the left ; while between these two moved Horsford with eighteen heavy guns. On the left of the nullah marched Colin Campbell ; his right brigade being under Carnegy (24th Foot, and 25th Native Infantry) ; his left under McLeod (61st Foot, 36th Native Infantry) ; while between them moved the 5th and 10th

Light Field Batteries; and in their rear Hoggan's Infantry. Prolonging the line to Campbell's left were the Bombay troops, under Brigadier-General the Hon. R. Dundas, these comprised the 60th Rifles on the left, then the 19th and 3rd Regiments of Native Infantry, and the 1st Bombay Europeans. On the left of the Bombay Infantry came two batteries from the same Presidency, and beyond them again the Cavalry Brigade of Michael White, consisting of the 3rd Light Dragoons, 9th Lancers, Scinde Horse, and 8th Light Cavalry. These troops formed the line which Gough now directed against the Khalsa army, in number fully double the strength of his own. Other troops there were in support, but these were destined rather to protect the

and the deep bed of the Dwara. Gough proposed penetrating the centre of the Sikh line with Gilbert's brigade, and then wheeling up his left to double up the enemy on to the Chenaub, and thus compel their surrender.

At half-past seven on the morning of the 21st of January the British forces advanced in the order shown in the accompanying sketch. The sight must, indeed, have been a noble one, two and twenty battalions deployed in line, flanked by ten regiments of cavalry, and covered by seventy-two guns, bore proudly down on the Khalsa host. Our men burned to avenge the losses of Chilianwallah. The Sikhs, self-confident to the last, rushed to arms with alacrity and fought as if they too were satis-



TOMB OF AURUNGZEBE, LAHORE.

baggage than to take any part in the engagement; they were the 5th and 6th Regiments of Light Cavalry, two Light Field Batteries, and the 45th and 69th Regiments of Bengal Native Infantry, under the command of Colonel Mercer. Lord Gough, moving with the heavy artillery in the centre of Gilbert's division, was to assume personal command of the troops on the right of the nullah; whilst Sir Joseph Thackwell as the next senior officer was entrusted with the direction of operations on its left.

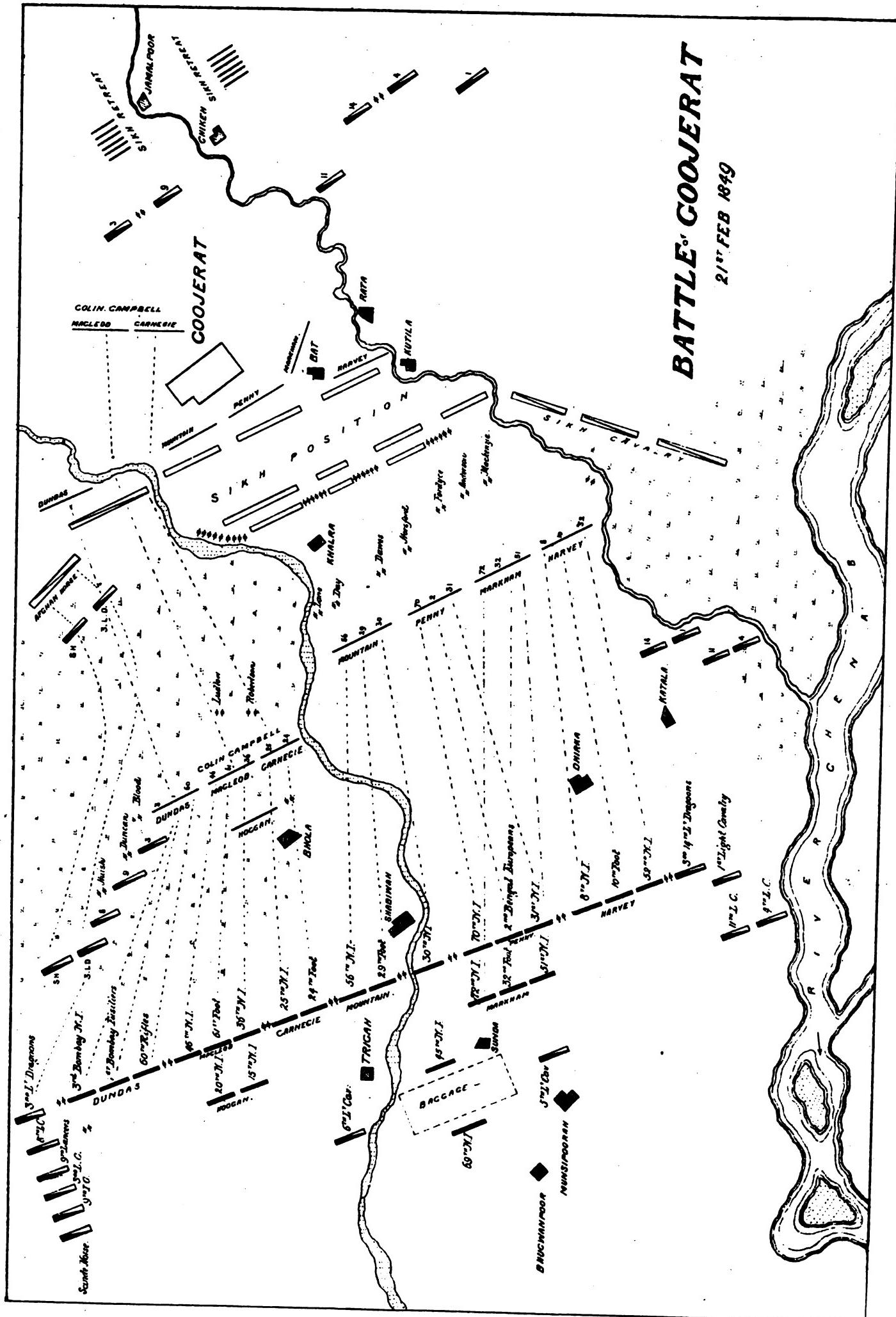
A reconnaissance conducted on the 18th had shown Gough that the enemy's camp nearly encircled the town of Goojerat, their regular troops being immediately in front of the central point of attack between the town

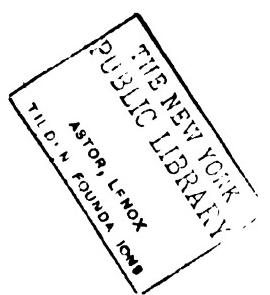
fied as to the ultimate result of that day's appeal to fate. They had seen how well their guns had told in the preceding fight, and no sooner had our line come within long range of their position than a heavy artillery fire was opened upon it. Gough, mindful of his mistake at Chilianwallah, halted his infantry, and pushing forward his guns, at once entered on an artillery duel with the enemy. "The cannonade now opened upon the enemy was the most magnificent I ever witnessed, and as terrible in its effects," wrote the gallant General in his official dispatch.

By 9 A.M. our guns had silenced those of the enemy, and our infantry were once more pushed forward, the Sikhs falling back before them into the village of Burrah

BATTLE COOPERAT

21st FEB 1849





Kabra. The village was flanked by two field batteries covered by formidable earthworks, and so far as could be seen at the time it virtually constituted the key of the position. Gough directed Brigadier Penny with his fine brigade to carry it. Let me now quote the stirring words of an actor in that gallant deed.

"A very annoying fire was opened on us from a village about two hundred yards in front, and our brigade was ordered to storm it. Our men, who had been held down all the time, started up with a cheer. It was the last some of them gave, poor fellows! A round shot took off a man's head near me and spattered his brains in my face, the bullets whizzing about like hail, and as we came nearer grape was poured into us, but not a man wavered for a second. 'Officers to the front—lead on your men!' shouted the Major, and we sprang forward amidst the shower of balls, dashed across a deep nullah, gave one rattling volley, and poured into the village at every point. The Sikhs stood and fought like men. Those who remained were shot or bayoneted on the spot. There was no quarter given. A number of them shut themselves up in the houses; but our men beat down the doors and poured in volley after volley, and sullenly and savagely they died fighting to the last. We captured three of their standards in the village, and then, leaving the left wing to take possession, we defiled to the right and found ourselves under a hot fire of grape and canister, totally unsupported, as we had advanced in front of the whole line to storm the village, and the troop of Horse Artillery had been obliged to retire temporarily disabled. This was the most deadly fire we were exposed to during the day, the balls hissing about like winged serpents. A troop of horse artillery dashed past us at a gallop, drew up, unlimbered, and returned the enemy's fire. The whole line of infantry was seen advancing, our guns poured in a withering fire, the enemy left theirs, and fled."

The style of fighting Penny's brigade was exposed to in this brief encounter may be judged from the fact that the three regiments composing it, the 2nd Bengal Europeans, the 31st and 70th Native Infantry, lost 315 men killed and wounded in less than half an hour.

But though Burra Kabra was carried, the Sikh line still remained unbroken. The Horse Artillery on the right of our line was once more pushed to the front and a heavy fire opened on the enemy, under cover of which Whish and Gilbert pushed on their infantry. Calmly the Sikhs awaited the onset, and strengthening their left flank by a large body of horsemen, evinced a determination to assume the offensive. Gough accordingly ordered Harvey's brigade to take ground to its right and Markham to move up on Gilbert's right. Harvey now came under a galling fire from the village of Chota Kebrah, which had been loopholed by the enemy. It was promptly carried by the 10th Foot, gallantly sup-

ported by the 8th and 52nd Native Infantry. The loss of the village damped the ardour of the Sikhs. Seeing the left wing of the British army also carrying everything before them, Shere Singh made one desperate effort to retrieve the fortune of the day, and he poured forth his horsemen simultaneously on both our flanks. On the left they were met by Mackwell, who, sending forward the Scinde Horse, supported by the 9th Lancers, inflicted a crushing defeat on Akram Khan's Dooranee cavalry. This magnificent body of horse had marched all the way down from Afghanistan in the hope of repeating on Gough the lesson taught to poor Elphinstone seven years previously. On our right the Sikh cavalry were more successful, and contrived to pierce the line. For some few moments the Commander-in-Chief was in imminent



RANJEET SINGH, FOUNDER OF THE SIKH MONARCHY.
(From a Native Drawing.)

danger, but the daring gallantry of Lieutenant Stannus commanding his personal escort, served to stem the onslaught and finally to drive the Sikhs back in confusion. These cavalry charges were the expiring efforts of the Khalsa leaders. Their power was broken; their men no longer looked to them for guidance, but casting away their arms fled rapidly from the field. On swept the British troops, and Campbell passing to the east and Dunbar to the west of the town, joined hands in its rear, and then, posting pickets, began to collect the captured ordnance.

The cavalry brigades were immediately pressed on in pursuit of the flying Sikhs, Mackwell, the commander of that arm, being entrusted with the task; but Gough felt that to break the Khalsa power effectually no rest should be given the dispirited enemy, no time to rally

for a fresh stand. Consequently Sir Walter Gilbert was instructed to move at once along the Peshawur road and not stay his hand until the Afghans were expelled the Punjab. Nobly did Gilbert's force fulfil its task. On the 21st of March, just one short month after the battle of Goojerat, his division was encamped in the Peshawur valley and the Sikh chiefs had one and all tendered their submission. The expulsion of the Afghans from India and the surrender of the Sikh Sirdars and their troops were achieved without one single shot being fired by Gilbert's force.

Thus ended the second Sikh campaign, thus was achieved the conquest of the Punjab. With the treaty entered into by the young Maharajah and his Sirdars at its conclusion I have naught to say, save that the province extending from the Sutlej to the Suliman mountains was annexed to the British Crown, that the Koh-i-noor, that magnificent jewel which Runjeet had so faithlessly wrested from the exiled monarch of Afghanistan, was tendered as an offering by the Indian Government to the Queen, and that the young Maharajah was allotted an income of £40,000 a year so long as he resided in a place assigned to him by the British authorities and abstained from all interference with affairs in the Punjab.

Chivalrous and gallant as our foes, the Sikhs, since 1849, have proved our staunchest friends. In 1857, when the fate of India hung trembling in the balance, it was the Sikh chieftains who first came forward with help, and the soldiers of their chiefs stood side by side with our men before the walls of Delhi, and vied with Colin Campbell's Highlanders in driving the mutineers from Lucknow. In China, in Abyssinia, in Afghanistan, in many a deadly border fray, and last but not least, in that stubborn fight, under the gallant McNeil, outside Suakin, the Sikhs have shown us that they are second to no soldiers in the world. We learnt their worth during those four years of almost constant fighting, from Moodkee to Goojerat; we have tested it since, on more than one dearly-bought field. The blood shed in conquering the Punjab has not been shed in vain, for it has given us a race of men fit to stand by the side of England's worthiest sons; for they showed themselves in the campaigns I have endeavoured to portray foemen right worthy of our steel. Those who imagine that England's fighting strength is small, omit our Punjab soldiers from their erroneous calculations.

In June 1849 appeared a long list of honours for the arduous campaign.

Sir Joseph Thackwell, of the Queen's, and Sir Walter Gilbert, were made G.C.B.'s.

The Knighthood of the Bath was conferred on Colonels the Hon. H. Dundas, 60th Rifles; Colin Campbell, 98th Foot; Major-General W. Whish; and Colonel Cheape, of the Bengal Engineers.

The C.B. was granted to—

Colonel Fullerton, 9th Lancers; Colonels King and Doherty, 14th Light Dragoons; Young, 10th Foot; Markham and Brooks, 32nd Regiment; Bradshaw, 60th Rifles; Macleod, 61st Foot; Tennant, Brind, and Grant, Bengal Artillery; Alexander, 5th Light Cavalry; Hearsey, 7th Light Cavalry; Salter, 11th Light Cavalry; Bradford, 1st Light Cavalry; Steel, 2nd European Regiment; McSherry, 1st Native Infantry; Sibbald, 15th Native Infantry; Birch, 17th Native Infantry; Capon, 23rd Native Infantry; Corbett, 25th Native Infantry; Jack, 30th Native Infantry; Curtis, 37th Native Infantry; Hoggan, 45th Native Infantry; Hervey, 52nd Native Infantry; Eckford and Holmes, 56th Native Infantry; Mercer, 69th Native Infantry; and Herbert Edwardes.



A SIKH RAJAH.

The following brevets were also granted:—

To be A.D.C. to the Queen, with the rank of Colonel in the East Indies—

Lieut.-Colonel F. Stalker, C.B., 19th Bombay Infantry; C. Godby, C.B., 2nd Bengal European Regiment; N. Penny, C.B., 69th Native Infantry.

To be Lieut.-Colonels—

Major Hope Grant, C.B., 9th Lancers; J. Yerbury, 3rd Light Dragoons; G. Blackford, 24th Foot; M. Smith and E. Lugard, 29th Regiment; J. E. W. Inglis, 32nd Regiment; H. Bates, 98th Regiment; R. Napier and G. B. Tremenheere, Bengal Engineers; W. Scott, Bombay Engineers; H. Garbett, R. Horsford, E. Day, J. Fordyce, J. L. Mowatt, E. Ludlow, and Sir Richmond Shakespeare, Bengal Artillery; C. Blood and J. Leeson, Bombay Artillery; J. F. Tait, 2nd Bengal European

Regiment; R. St. John, 1st Bombay European Regiment; J. Hobson and R. Inigan, 1st Bombay Fusiliers; J. Christie, 3rd Bengal Light Cavalry; G. Ponsonby, 11th Light Cavalry; F. Wheeler, 11th Light Cavalry; F. Coventry, 6th Light Cavalry; J. Mackenzie, 8th Light Cavalry; G. St. Patrick Lawrence, 11th Light Cavalry; J. Tudor, 46th Bengal Native Infantry; F. Corfield, 20th Bengal Native Infantry; G. Farquharson, 8th Bengal Native Infantry; D. Williams, 45th Native Infantry; J. Finn, 51st Native Infantry; W. Corfield, 31st Native Infantry; Arthur Becher, 61st Native Infantry; J. Flemming, 36th Native Infantry; H. Tucker, 8th Native Infantry; Fred. Mackeson, C.B., 14th Native Infantry; G. Thomson, 40th Native Infantry; J. Hodgson, 12th Native Infantry; J. McCausland, 70th Native Infantry; C. Chester, 23rd Native Infantry; C. Griffin, 51st Native Infantry; S. Williams, 8th Native Infantry; E. Lloyd, 49th Bengal Native Infantry; S. Poole, 1st Bombay Native Infantry; E. Green, C.B., 2nd Bombay Native Infantry; J. Hallett, 3rd Bombay Native Infantry; W. Honner, 4th Bombay Native Infantry; and George Mant, 19th Bombay Native Infantry.

To be Brevet Major—

Captains W. Unett, 3rd Light Dragoons; J. Campbell, E. Pratt, and R. Yule, 9th Lancers; E. Longden, 10th Foot; J. Clark Kennedy, 18th Foot; F. Paul Haines, 21st Foot; Hon. F. Fane, 25th Foot; A. Balfour, 32nd Foot; C. Otter, 61st Foot.

Bengal Engineers.—J. Glassfurd, H. M. Durand, B. Goldie, W. Abercrombie, J. Western, H. Siddons, A. Cunningham, and E. Lake.

Bengal Artillery.—J. Abbott, J. D. Shakespeare, F. D. Duncan, E. P. Master, A. Huish, E. G. Austin, M. Mackenzie, W. K. Warner, M. Dawes, C. Hogge, J. Abercrombie.

Bombay Artillery.—S. W. Hicks, S. Turnbull.

Madras Artillery.—W. M. Gabbett.

1st Bengal European Regiment.—Herbert Edwardes.

2nd Bengal European Regiment.—M. E. Sherwill.

1st Bombay Fusiliers.—H. Stiles, T. Tapp, J. Ramsay, R. Leith.

Bengal Cavalry.—A. Wheatley 5th, T. Moore 8th, R. Master 7th, G. Cautley 8th, J. Fergusson 6th, Reynell Taylor 11th.

Bengal Native Infantry.—D. Keiller 6th, H. Lloyd 72nd, J. Lang 36th, J. Hamilton 36th, J. Jameson 52nd, C. Campbell 42nd, J. Ramsay 35th, F. Lloyd 19th, W. Robbins 15th, J. Clarke 25th, G. Biddulph 45th, J. D. Macpherson 22nd, G. P. Whish 60th, J. Nembhard 56th, E. Wiggins 52nd, J. Nicholson 27th, C. Herbert 18th.

Bombay Native Infantry.—E. Hart 19th, C. Threshore 10th, P. Skinner 9th.

It would be a waste of labour and of space to recapitulate the names of officers mentioned in dispatches, but to those who assert that the custom of mentioning non-

commissioned officers and men is one due to the initiation of our modern generals, I would refer to the *London Gazette* of 3rd May 1849, which, in republishing Lord Gough's reports on the campaign, places on public record the distinguished services of the six English and twelve Natives of the Bengal Sappers and Miners.

It is worthy of note, showing what little recognition was paid to the services of departmental officers, that though in the Sutlej campaign the names of Doctors Macleod, Graham, and Walker, and, in the second Punjab campaign, those of other medical officers were brought to public notice, no reward was conferred on any single representative of that body of men, to whose arduous labours and unselfish devotion the health of the army and the recovery of the wounded were due. We have changed all that now, and the Medical and Veterinary Departments have gained their fair share of honour in recent wars.

I have purposely omitted from commenting on the conduct of our generals during these campaigns. That mistakes were committed is self-evident. Where is the general whose career has been free from error? It is always more easy to criticise a campaign than to carry one through to a successful end. My experience of military critics has led me to estimate them at the same value which a great statesman placed on their comrades of the press. They are, in the vast majority of cases, either failures as soldiers, or they have had but little practical experience of war. I prefer to sing the praises of England's soldiers, a theme on which much remains to be said, and on which far too little has been written.

CASUALTIES AT GOOJERAT.

	KILLED.			WOUNDED.		
	Officers.	Men.	Horses.	Officers.	Men.	Horses.
3rd Light Dragoons	—	—	3	—	1	2
9th Lancers	—	—	4	—	—	—
14th Light Dragoons	1	—	3	2	4	2
1st Bengal Light Cavalry	—	—	2	—	2	4
5th „ „	—	—	—	1	4	1
8th „ „	1	1	3	—	1	—
3rd Irregular Cavalry	—	1	2	1	6	2
9th „ „	—	1	10	—	13	3
11th „ „	—	—	2	—	3	—
14th „ „	—	—	2	—	2	2
Scinde Horse	—	2	24	1	11	11
10th Foot	—	—	7	1	1	58
29th Foot	—	—	2	—	6	—
32nd Foot	—	—	1	—	4	—
61st Foot	—	—	—	1	9	—
2nd Bengal Europeans	1	9	1	5	135	—
8th Native Infantry	2	8	—	5	60	—
25th „ „	—	1	—	—	2	—
30th „ „	—	—	—	—	3	—
31st „ „	—	11	—	5	127	—
36th „ „	—	4	—	—	9	—
51st „ „	—	5	—	2	47	—
52nd „ „	—	5	—	3	31	—
56th „ „	—	—	—	—	1	—
70th „ „	—	10	—	6	38	—
72nd „ „	—	1	—	—	8	—
Bengal Artillery	2	26	97	2	83	37
Bengal Engineers	—	—	—	2	7	—

LADY DE LANCY: A STORY OF WATERLOO.

[Whilst looking over the papers of my late husband Major-General E. W. De Lancy Lowe, I found the following narrative, written, in now faded characters, by his aunt, Lady De Lancy. It recounts the curious and painful experiences of the only woman, with the exception of the maid who accompanied her, who is known to have visited the field of Waterloo immediately after the battle. Its pathos and tenderness are touching in their simplicity, and, though those loving hearts have long since been reunited where war is not, we can still sympathize with the poor young bride (she was only nineteen) who lost her all in the great struggle that gave liberty to Europe.

Period of honour, as of woes,
What bright careers 'twas thine to close!
* * * * *
De Lancy changed Love's bridal wreath,
For laurels at the hands of Death.*

So much sympathy was felt for her at the time, that when the rejoicings and illuminations took place, the street in Edinburgh in which she had lived was purposely left in total darkness.—A. L. R. E.]

NARRATIVE OF LADY DE LANCY.



NOWING that many of my friends are desirous to have an account of the distressing scenes I have passed through, and finding the subject too painful to be renewed by writing frequently on these scenes, I have determined to form a short narrative which may be given to those who desire the information.

I was married in March 1815. At that time Sir William De Lancy held an appointment on the staff in Scotland. Peace appeared established, and I had no apprehension of the trials that awaited me. While we were spending the first week of our marriage at Dunglass, the accounts of the return of Bonaparte from Elba arrived, and Sir William was summoned to London, and soon after ordered to join the army at Brussels as Adjutant-Quartermaster-General. I entreated to accompany him, and my happiness in his society continued to increase with every day. I found him everything my affection had imagined, and the esteem and regard testified towards him by all ranks proved to me that I might confide entirely in the sterling worth of his character and principles.

* Colonel Sir William De Lancy married the beautiful daughter of Sir James Hall, bart., in April 1815, and received his mortal wound on the 18th June.

We withdrew as much as possible from the gaiety then offered us in Brussels, where the numerous English families appeared to consider the arrival of the army as the commencement of a series of entertainments. Ten days we passed almost entirely together; Sir William occupied part of the morning with the business of his situation, but was so quick and regular in his method of arranging, that he found time to show me every object of attention at Brussels; our evenings were passed in tranquil enjoyment, nothing was known of the advance of the French, and there was no idea of immediate danger.

On Thursday the 15th of June we had spent a particularly happy morning, my dear husband gave me many interesting anecdotes of his former life, and I traced in every one some trait of his amiable and generous mind; never had I felt so perfectly content, so grateful for the blessing of his love. He was to dine at the Spanish Ambassador's; it was the first time he had left me to spend an evening away since our marriage. When the hour approached he was most unwilling to go; I laughed at him, insisted on helping to dress him, put on the ribbons and orders he wore, and at last sent him away; he turned back at the door, and looked at me with a smile of happiness and peace. It was the last!

A short time after a message came from the Duke of Wellington to Sir William. He returned from the dinner and told me that news had been received of the near approach of the French, and that a battle was to be expected immediately, and that he had all the orders and arrangements to write as the army was to leave Brussels at daybreak. I entreated to remain in the room with him, promising not to speak. He wrote for several hours without any interruption but the entrance and departure of the various messengers who were to take the orders. Every now and then I gave him a cup of green tea, which was the only refreshment he would take, and he rewarded me by a silent look. My feelings during these hours I cannot attempt to describe, but I preserved perfect outward tranquillity.

Sir William told me that when he went to the Duke of Wellington he found him in his shirt, dressing for the Duchess of Richmond's ball, and a Prussian officer stood by him in full dress, to whom he was giving orders in case of an engagement with the French before the main body of the army joined. How many attended the ball that evening, who were stretched on the field of battle so soon after.

The *reveillée* was beat all night, and the troops actively

prepared for their march. I stood with my husband at a window of the house, which overlooked a gate of the city, and saw the whole army go out. Regiment after regiment passed through and melted away in the mist of the morning. At length my husband was summoned. He had ordered everything ready for my removal to Antwerp, thinking Brussels too near the probable field of battle, and he charged me to remain as much as possible alone, to hear no reports nor to move till he sent to me. He endeavoured to cheer me by saying he thought the action would be a decisive one in favour of our troops, and that he should see me in a day or two.

When he had gone I felt stupified, and had but one wish, to do all that he had desired. I went to Antwerp, and found the hotel there so crowded, that I could only obtain one small room for my maid and myself, and it was at the top of the house. I remained entirely within, and desired my maid not to tell me what she might hear in the hotel respecting the army. On the 18th, however, I could not avoid the conviction that the battle was going on; the anxious faces in the street, the frequent messengers I saw passing by, were sufficient proof that important intelligence was expected, and as I sat at the open window I heard the firing of artillery, like the distant roaring of the sea as I had so often heard it at Dunglass. How the contrast of my former tranquil life there was pressed upon me at that moment!

I felt little fear respecting my husband, as I persuaded myself his post would be near the Duke of Wellington, and less exposed than in the midst of the battle. He was struck by a cannon-ball as he rode by the Duke's side; the ball was a spent one, yet the shock was so violent, that he was thrown a considerable distance, and fell with such force that he rebounded from the ground again. There was no visible contusion, but the internal injury was too great to be surmounted. He was able to speak in a short time after the fall, and when the Duke of Wellington took his hand and asked how he felt, he begged to be taken from the crowd that he might die in peace, and gave a message to me.

After the battle was concluded, all those whose duty it was to send in returns being killed or wounded, Lady H——, who was at Antwerp, was employed by her husband, General H——, to write the returns as they came in. Knowing I was in Antwerp, she purposely omitted Sir William's name in the list of the wounded, and a friend of Sir William's, seeing the return, came to me to tell me he was safe.

I was delighted and felt I could not be grateful enough. I was told then that General and Lady H—— desired to see me. I ran to meet them with joy, but being struck by the melancholy expression of their countenances, I thought they had probably lost friends,

and checked myself. General H—— looked at me and turned to the window, and then suddenly left the room. Lady H——, with great kindness, informed me that Sir William was severely wounded. Having been deceived before, my first impression was that he was killed. I refused to believe the contrary, and became almost distracted with grief; and I entreated to be left alone, and locked myself in. I remained some hours, scarcely conscious of anything but the feeling that I should see my dear husband no more.

A messenger came from Brussels later to say Sir William was better, that hopes were entertained that he might recover, and to desire me to come to him. Lady H—— and my maid came to the door to tell me. It was some time before they could make me understand that they had good news to give; then I admitted them, and my feelings changed to an eager desire to be gone. After taking the refreshments Lady H—— insisted upon, I ran up and down to hasten the preparations for my departure, until General Mackenzie, who had come to see me, recalled me to myself by a few calm and kind words. He said my friends were doing all they could, that I should have great calls for exertion when I reached Waterloo, and I ought to spare myself beforehand. I sat down and waited patiently, and thought if I could only see my husband alive, even if it were but for a few hours, I should never repine again.

The journey was dreadful; the roads were filled with waggons, carts, and litters bringing the wounded; with detachments of troops; with crowds of people; it seemed impossible to get on. The people were brutal in the extreme, particularly the Prussian soldiers. I had the greatest difficulty to prevent my servant who was on the box from losing his temper. I spoke to him from the carriage, begging him not to return the abusive language they gave us, and to remember we were unable to oblige them to let us pass. Once a Prussian rode up to the carriage with his sword drawn and refused to let it proceed, and even cut at the servant's legs. I had kept the blinds down, but I then drew them up, and implored him with my gestures to let us go on. He drew back, and the look of pity on his before fierce countenance proved what effect the appearance of real distress will have even on the most hardened.

We were a night and two days on the road. General H—— had put a bottle of wine and a loaf into the carriage, and upon a few mouthfuls of these we were supported. The horses never could move beyond a foot-pace, and we were often detained for a long time in the same spot. When we came to the field of battle, which we were obliged to cross, the sight of the dead terrified the horses so much, that it was with great difficulty they were forced on, and frequently they screamed with fright; the sound was a most piercing one, and such as I never can forget.

The hovel where Sir William lay was on the further side of Waterloo, near the high road. When I got to the door, the officer, who had rode by the side of my carriage across the field, went in and told Sir William I was there. I heard his voice, as clear as usual, say : "Let her come in directly," and the sound nearly over-powered me. I found him unable to move, or even to turn his head, and suffering at times great pain ; but he was perfectly collected and cheerful, and he expressed the greatest comfort at my presence.

Nothing could be more wretched than the hovel, it had been plundered and set on fire by the French, and was entirely destitute of everything. The surgical attendance was the very best, and nothing could exceed the kindness of all towards us. It was scarcely possible to procure food or necessaries, but all that could be found were brought to us. My maid proved an excellent nurse, and prepared everything Sir William ate, but he could take but little. The cottage had two rooms, in one of which we cooked his food, and I had the inexpressible comfort of knowing that he had all that he wished for.

I passed the greatest part of the ten days his life lasted sitting by him and holding his hand ; he could not speak much, but all he said was kind, soothing, and perfectly resigned. He often desired me to go and lie down in the other room ; but if I returned in a few moments he forgot to send me away again. I fear he concealed his sufferings out of consideration for me, for sometimes, when I was out of his sight, I heard him groan deeply. The road, which was immediately near the cottage, was the only one by which all the waggons passed ; but he did not appear to mind the noise. I think I slept but once during the ten days, and that was when he had fallen into a doze, and I leaned my head on his pillow ; when I awoke he was looking at me and said it had done him good to see me sleep.

The first night I was there an officer, hearing I had no blanket, sent me one, and this was of the greatest use to us in fomenting Sir William's limbs and chest, it relieved the pain ; having torn the blanket into pieces, as well as my own petticoat and my maid's, we were able to continue the fomentations for a considerable time. The surgeons were sometimes so exhausted, that when they came in the evening, they were nearly fainting and unable to speak. I applied the leeches, dressed the

blisters, which had been ordered on his breast, and he often said I did it more gently than the surgeons.

One day we had an alarm that the French were returning ; I prepared myself for it, and only prayed that I might die with my husband. Sir William noticed every little circumstance which occurred, and was amused at the ingenuity which I exerted to procure him comforts. An officer, who called to inquire after him, left a card which was directly made into a spoon to feed him. At one time he really appeared better, and said he thought he might recover, and that then it would be the happiest event of his life, for no one could expect him to continue in the army after such an injury as this, and he might retire and live with me.

Two days before the last, as no hope of saving his life remained, I was told that he could not live more than a very short time as water had formed on his chest. I thought it my duty to tell him ; he bore it with the greatest firmness, and resignation to the will of God ; but said that it was almost sudden to him as he had felt so much easier for several hours. He said many things at intervals to me respecting my return to England, and the comfort I should have in thinking over the time I had passed with him, and he prayed with me and for me.

I can scarcely recall the circumstances of the last twenty-four hours. He suffered much at times from oppression of the breath, and the advances of death, though slow, were very visible. He sunk into a lethargy and expired without a struggle. Two of the medical men were in the next room during the last day, and General D—— was waiting in a house near ; but they did not interrupt us. When all was over, and I saw my dear husband lying dead, so calm and with such a peaceful expression on his countenance, I felt what a blessed change he had made from this world of trouble and suffering.

General D—— took me with him to Brussels. Sir William was buried near Brussels, in the same place with many other officers. I wished to have attended, but was advised not to do so. I received the greatest kindness from many whose names I did not know before.

As I sat alone on the day of the funeral, reflecting on what had passed, I remembered it was three months that very day since my wedding.

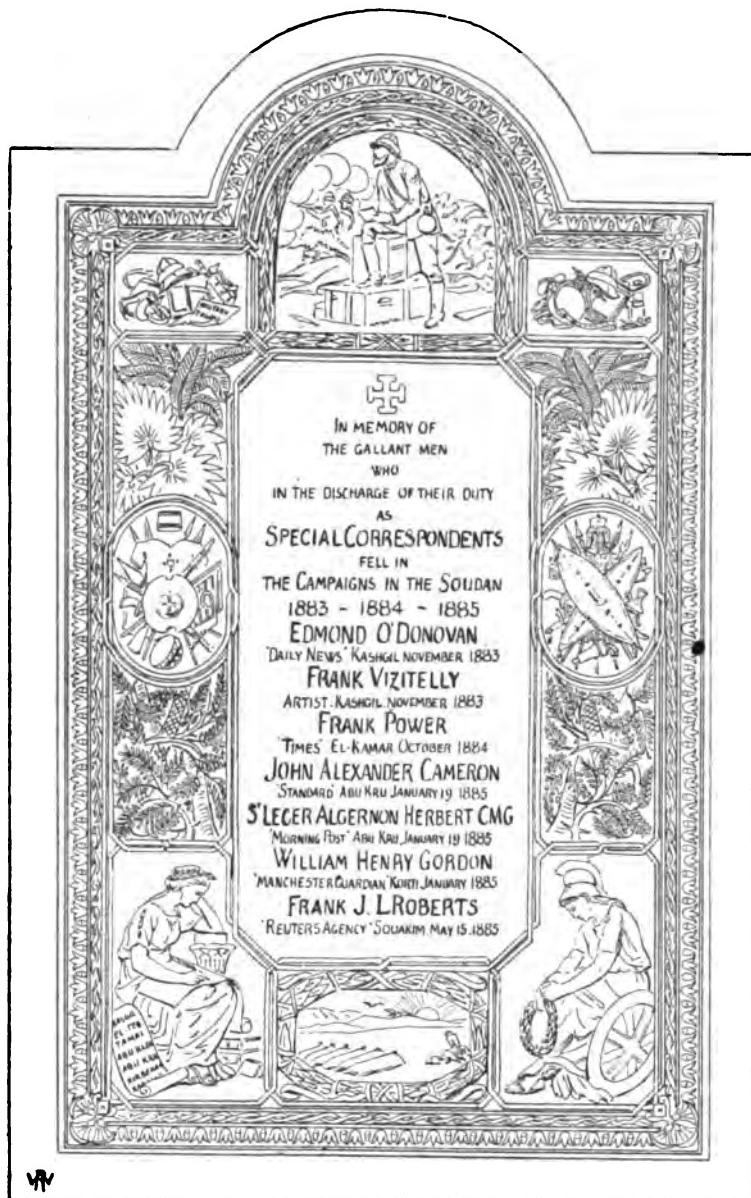


MEMORIAL TO THE SOUDAN WAR CORRESPONDENTS.



Y the courtesy of Messrs. Gawthorpe, of Long Acre, the manufacturers, we are enabled to produce a drawing of the mural tablet, designed by Mr. Herbert Johnson of the *Graphic*, which has recently been executed in memory of seven war correspondents who perished during the various campaigns in the Soudan between the years 1883 and 1886. Destined for the

and places of their decease. The carving at the top represents a correspondent taking notes in the midst of an engagement, a couple of empty ammunition-boxes serving him in lieu of chair and table, while the panels on either side of him denote the customary equipment of a "special." At the sides are trophies of Soudanese weapons, offensive and defensive, festooned with fancy designs of mimosa thorn, lotus flowers and other species of vegetation peculiar to the locality. The



crypt of St. Paul's Cathedral, it is made of one entire sheet of "latten" brass, 74 inches high by 45 in breadth, and is to be mounted on a slab of red marble. In the centre of the tablet are inscribed the names of those who died in the performance of their duty, with the dates

two figures at the base are the Muse of History and Britannia in a mournful attitude, while the solitary graves in the centre remind us of the torrid desert in which the deceased repose.

THE SIKKIM EXPEDITION.

BY CAPTAIN H. C. WYLLY, 2ND BATTALION DERBYSHIRE REGIMENT.



T may interest some of our readers to hear a little concerning an expedition which, although comparatively insignificant and of brief duration, has yet been in its way an unique bit of military history. The expeditionary force, having its base at some few feet below sea-level, has carried the British flag to the borders of a country but little known to Europeans, and to an elevation never, I believe, before reached by the soldiers of any nation. The head-quarters of the Sikkim Expeditionary Force left Siliguri on the 7th of March 1888, and by the 21st of the same month had reached its destination at Lingtu among the mountains bordering Tibet and 12,600 feet above the level of the sea.

I am not one of those who believe in the absolute ignorance said to exist in England regarding Indian affairs; but it will not be out of place if I attempt a brief sketch of the events which have led to the despatch of an expedition from the neighbourhood of the City of Palaces to the borders of the country of the Lamas. From time immemorial, from the days of Bogle and Manning down to our own times, Tibetan authority has been very jealous of permitting the incursions of foreigners into its territory, and it has consequently followed, that trade with Tibet has been almost at a standstill. Many endeavours have been made from time to time to alter this state of things; but when pressed into a corner the Tibetans have been always able to fall back upon the allegiance they owe to China and to make capital out of the suzerainty exercised over them by the Court of Pekin. However, diplomacy appeared at last to be about to triumph, and in the autumn of 1886 a mission was ready to start from Darjeeling for Lassa under the guidance of Mr. Colman Macaulay, one of the Secretaries to the Government of Bengal and an officer well acquainted with the people of Tibet and versed in Buddhist lore. At the very last moment, however, difficulties cropped up, and, to make matters worse, a mountain battery took up its quarters in Darjeeling. At once the Lamas took the alarm and were convinced that the object of the Macaulay mission was not the furtherance of trade, but an attempt at annexation. The matter was represented to the Court of Pekin, and the consequence was that our Government was informed that a mission to Lassa of however pacific a character would

not at the present moment be acceptable. Here the matter might for the time have dropped, to be taken up again at a convenient season, had not the Tibetans crossed their frontier, and, proceeding some twenty miles into the territory of independent Sikkim, there erected a species of fort upon a high and isolated mountain called Lingtu, over which the road passes between India and Tibet. Traders passing to and fro were permitted to pass by the garrison on paying blackmail; and it soon became apparent that an obstacle to trade had been set up greater even than the stolid and passive resistance offered by the Lamas. At this time the Government of India had its hands tolerably full with Burma and other matters, and it was hoped that pressure might be brought to bear upon the Raja of Sikkim to induce him to use his influence to expel the invaders of his territory. But this petty potentate, a weak-minded, vacillating individual, is connected by marriage with many of the leading Tibetan families, and has been for some time past accustomed to spend the summer months across the Tibetan border in the valley of Chumbi. Finding that the tone of the official correspondence addressed to him on the subject of Tibetan aggression was becoming somewhat constrained and dictatorial, the Raja solved the difficulty to his own satisfaction by remaining altogether in Tibet and refusing to be coaxed back even by a Bengal Deputy-Commissioner. By treaty the Raja of Sikkim is given a small allowance and is obliged to reside for certain months of the year in his own territory, so that the Imperial Government was now obliged to stop the fugitive's pocket-money.

Matters thus went on for some eighteen months, until at last the Government of India, having nothing else to do, decided upon an expedition having for its object the occupation of the fort at Lingtu and the expulsion across the border of the Tibetan garrison.

At the beginning of March 1888 orders were issued for a force composed as under to be assembled at Siliguri, a small station in the Darjeeling Terai, and to proceed by march route to Padong, where the force was to assemble by the 15th of March: four guns 9/1 Northern Division Royal Artillery (Mountain) from Darjeeling; two companies of the Derbyshire Regiment from Dum Dum; a wing of the 18th Native Infantry from Allahabad, and a wing of the 32nd Pioneers from Mian Mir, to join the head-quarter wing of that regiment, which had been em-

ployed for some weeks past in British Sikkim in mending roads and bridges—in all a force of close upon 1,500 men. The whole was placed under command of Colonel Graham, R.A., with Captain E. A. Travers, 2nd Goorkhas, as D.A.A.G. The battery, which was quartered at Darjeeling, proceeded, of course, by the hill road past Peshok, joining at the Teesta bridge the route pursued from Siliguri, Sibhok, Riang by the troops arriving from the plains. Siliguri had been selected provisionally for a base because carts could traverse the road to the river as far as the iron suspension bridge, but it was understood that directly the rains commenced Siliguri would from its position in the Terai become uninhabitable, and it was resolved to transfer the base to Ghoom, a station close to Darjeeling and the Hima-

the stream forming the boundary of British Sikkim, a capital view could be obtained of the mountain and fort of Lingtu, which, towering above the intermediate hills, seemed to close in the scene with a barrier of snow and rock. The fort itself was evidently a single line of wall, having a species of bastion or tower at either end, and a covered building in the centre. The mountain, rising sheer some three thousand feet above the ridge connecting it with the neighbouring hills, seemed so isolated that it would be impossible to shell it from any convenient distance, and that an assault following a climb up its almost precipitous sides must be a serious matter should the garrison of Lingtu only stand firm.

At Padong Colonel Graham divided his small force into two: one, to be commanded by himself in person and called the Lingtu column, was to advance directly upon the fort, and occupy it if possible; for this column



MOUNT KINCHENJUNGA (28,600 feet above the sea).

layan railway. It had at first been decided that the troops were not to take tents, but were to be housed at their several halting-places in hurriedly constructed bamboo huts run up by the Department of Public Works on the requisition of the Quartermaster-General's Department. These huts were quite admirable for fine weather, or even for the protection of a pic-nic party against a summer shower, but were absolutely useless against the heavy thunder-storms so common to hill-districts in the early spring. Rain fell almost every night between the 9th and 15th, so that troops marching on those dates had a very poor time of it. The detachment of the Derbyshire Regiment marching from Siliguri to Padong were regularly washed out of their huts every evening, and were consequently by no means sorry on arrival at the rendezvous to obtain mountain battery tents. From Padong, which stands just above



BOOBY TRAP.

twenty days' supplies were collected at the Rungli Chu river, a position which had been for some days occupied by the advance party of the 32nd Pioneers. The other column, to be called the Jutchi Column, under command of Colonel Michell of the 13th Native Infantry, was to be held ready equipped at Padong either to support the Lingtu force, if such a step should become necessary, or to move round by the Jutchi Monastery so as to prevent any movement by the enemy upon Tumlong, the capital of independent Sikkim. The Lingtu column was made up as follows: two guns of the Mountain Battery under Major Keith, one hundred men of the Derbyshire Regiment under Captain Welly, and three hundred of the 32nd Pioneers under command of Colonel Sir B. Bromhead. The Jutchi force consisted of two guns R. A. under Lieutenant Phillips, one hundred men of the Derbyshires under Captain Gosset, and three hundred of the 13th Native Infantry. The remainder of the Pioneers remained at

Padong, which was, as will be seen from a glance at the map, an important position, being within convenient distance of the junction of all the roads leading to the Tibetan frontier.

On the 16th March, the Lingtu column moved off along No. 2 road, that by Rissum and Richila being reported much cut away in parts, and rendered dangerous by reason of the booby-traps placed there by the Tibetan military authorities. The column halted upon the ridge at Rhenock, and immediately opposite the camp at Padong. At Rhenock news was received that the garrison of Lingtu had recently been strongly reinforced; that a large body of the enemy was advancing



ABATTIS TAKEN FROM THE ENEMY ON MARCH 19, 1888.

upon Jutchi, and that another party was moving with a view to threaten our communications at Padong. Orders were immediately sent back to Padong for the Jutchi column to move the next morning to Rhenock Bazaar, throwing forward an advanced party to Pakyong, while the small force under Colonel Graham continued its advance the next morning and encamped on the 17th at Rungli Chu within a strong stockade erected by the 32nd Pioneers. Here some excitement was caused by the discovery of the body of a muleteer, who had been missing, and who was found hanged. It was at first supposed that he had been set upon by some of the enemy who were known to be in the neighbour-

hood, but further inquiry resulted in a verdict of *felo de se*.

Our transport, which consisted of some 750 mules, came along in capital style over the hill paths which had become very much worse since we had left British territory, and we had wonderfully few sore backs. The transport was also supplemented as far as the carriage of the commissariat was concerned by a coolie corps, each member of which, carrying almost as heavy a load as a mule, of course did not get so fast over the ground, nor were they so amenable to discipline.

At Rungli Chu we left behind, with a hundred men of the Pioneers, all our reserve ammunition, and henceforward all that was carried by the infantry of the force was forty rounds per man in the pouches, and an additional reserve of thirty rounds per man upon mules following immediately in rear of the different detachments.

On the 18th we reached Lingtam, a small clearing in the midst of thick jungle and overlooked from every



TIBETAN SOLDIERS.

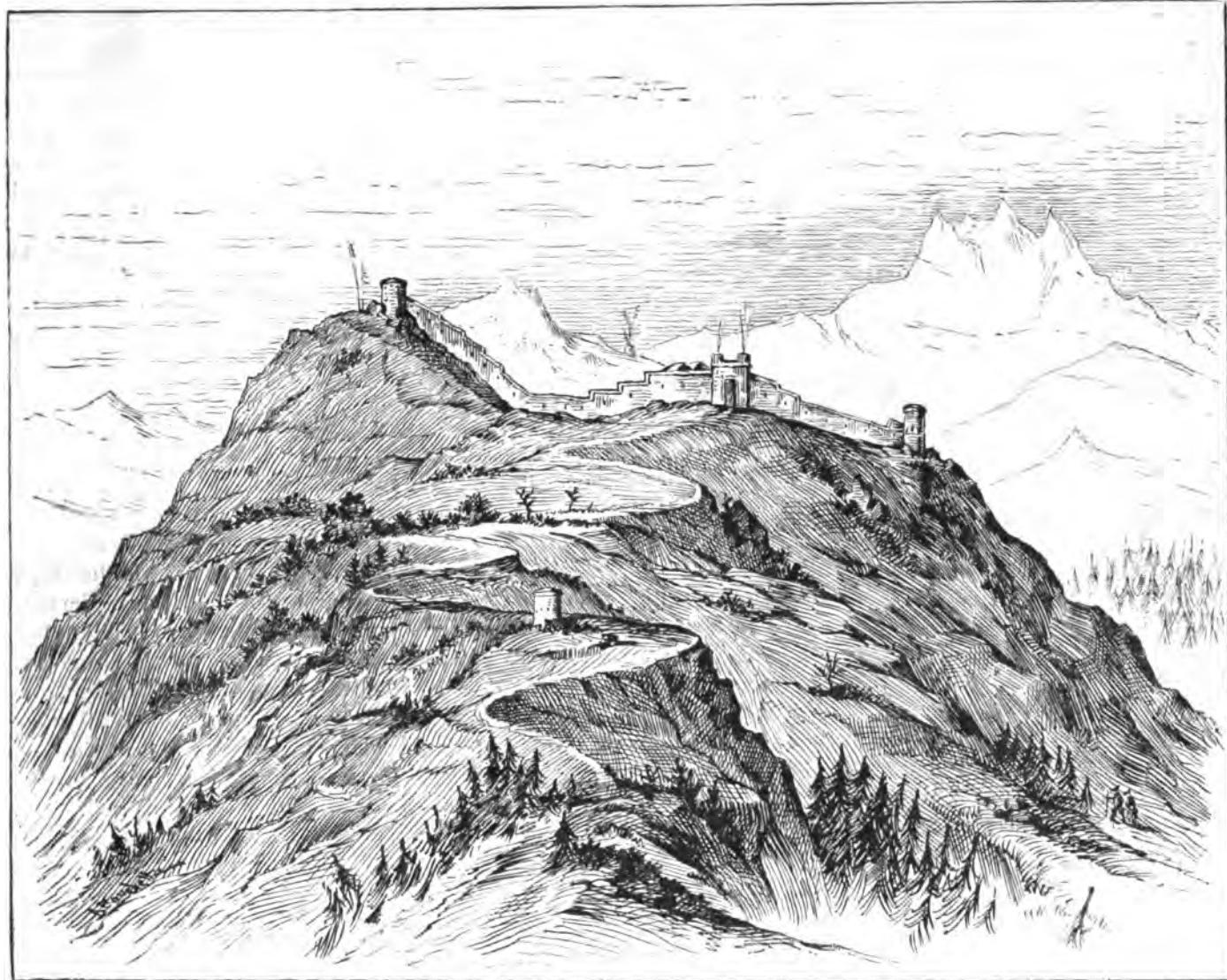
side by low hills running down from the Lingtu chain far above us. Here the force had closed up sensibly to the Pioneers in front, who were camped at a place called Ken-Lakka. The 32nd Pioneers here came upon several of the enemy who appeared to be watching our movements from the jungle and who withdrew directly they found themselves observed.

From Lingtam the force had a short but especially toilsome march to Padamchen or Padongchen; the distance was not above six miles, but the road was very bad and slippery, and the advance of the column was at one place considerably delayed by having to remove a tree which the enemy had laid across the road.

From Padamchen the Commander of the expedition, accompanied by his staff and by a small escort of the Pioneers, went off about two o'clock in the afternoon to

reconnoitre the road to the position of Lingtu. The party had not proceeded far before they came upon an obstruction across the narrow path in the shape of a fallen tree, the openings of which had been filled up with stones, while beyond could be heard the voices of men talking. The obstacles being removed, the party proceeded with all caution, but had not gone far before the advanced files were fired upon from a abattis placed high above the path which it com-

the abattis was reached, and the Pioneers sent at it. These Sikhs went at the position with a will, but the enemy stood better than anybody had expected, firing slugs and rolling down stones, while men posted in trees kept up an incessant but ineffectual fire with arrows. Some of the Sikhs, branching off to the left along the path, which here took a sharp turn, found themselves in front of a *sangar*, which was stubbornly defended, and where the road had been entirely cut away. A section



FORT LINGTU, TAKEN FROM TIBETANS ON MARCH 20, 1888.

manded, and amid the densest jungle. Our force was very small and the strength of the enemy was not known; it was getting late in the afternoon, so it was determined to return to camp, and rush the stockade the following morning. Accordingly, the next morning one hundred of the Pioneers, with a similar number of the Derbyshire Regiment, paraded at seven o'clock, and led off in the above order up the hill. After tramping along steadily for an hour and a half,

of the Derbyshire Regiment being now ordered to the front clambered up to and over the high stockade in their front. Some joined with the Sikhs in pursuit of the enemy who now gave way and fled out through the back of the position, while the remainder, swinging to the left, joined hands with another section of the Derbies who took in reverse, charging with the bayonet, the men still sticking to the *sangar* on the road. The affair was now over, and the enemy fled in all directions, some

diving into the densely jungled *khuds* to the right and left, while others fled up the road to Lingtu, hotly pursued by Bromhead and his Sikhs.

Colonel Graham was determined to strike while the iron was hot, and accordingly pushed on to Garni, a narrow ridge lying some 1,600 feet below the fort at Lingtu. Here the Pioneers were left, the guns which were now following up the hill and the Derbyshires being sent back again to encamp at Jeluktso, the scene of the morning's skirmish. That was an uncomfortable night for all; the elevation even of Jeluktso was over 10,000 feet, the road from the camp below being narrow and broken, while individual desperadoes of the enemy

Lingtu commandant, but no reply being received, at 11.30 Colonel Graham gave the order for the Derbyshires to advance, preceded by a small party of the Pioneers. The road at once came upon the snow, and for nearly an hour and a half the party proceeded with the utmost caution along a track some eighteen inches wide with two and three feet of snow on either side. The mist continued dense, and nothing could be seen of the enemy or of the wall of the fort. At last the order was given for the Derbyshires to leave the path and strike off up the almost perpendicular slope to the left, in snow often up to their waists, while the Pioneers kept to the path. Presently the Derbyshires heard on their right the shrill war-cry of the Tibetans, followed by the "charge" and the shouts of the Sikhs. Pushing on, they came again upon the path, and ran in at the gate of the now empty fort upon the heels of the Sikhs. It was found that the bulk of the Tibetan garrison had evacuated the fort the preceding day, leaving only a few villagers to shout and run away.

Thus for the present ended an expedition of an interesting and unique character. It is probable that a garrison of native troops will have to remain here during the summer to reopen the road and prevent any further Tibetan aggression, while it is intended, as soon as the road becomes passable, to push on to the Jalepla Pass to the borders of Tibet, and return by No. 8 road to Padong and the plains. Already, in spite of the snow, an advance has been made to Tukola, and the British scarlet has been seen at a height of 18,550 feet above the level of the sea, and unimpressionable Thomas Atkins has looked upon such a scene as has seldom been revealed to the eyes of any body of troops—a wilderness of snow and rock and jagged peaks, of upland pastures and deep precipices, of brown hillside and boulders; no sign of life, no bird, no tree, no living thing, only a narrow path in the snow stretching away from us to the Jalepla and Tibet, made by the hurrying feet of the fugitive Tibetan soldiery.



BRITISH HEAD-QUARTERS, INSIDE LINGTU FORT.

amused themselves during the night by annoying with arrows the long convoys which endeavoured to struggle up through the mud and darkness. For many that night there were no tents, no blankets, no warm coats, but there was firewood and rum, and no grumbling. On the morning of the 21st the guns hurried on and took up a position at Garni, and then the mist rising enabled the gunners to get the elevation and direction of a small blockhouse commanding the road up the mountain. At 10 A.M. an ultimatum was sent to the



A NEW PORTABLE HOSPITAL.

(From the *Illustrierte Zeitung*.)



URING the Franco-German war, the want of hospital accommodation was severely felt on both sides, notwithstanding the fact that the principal engagements were fought in the summer and autumn, and in cultivated and populous districts where a network of railways for the transport of the wounded and many good dwellings for their accommodation were available. In the war of 1877-78, the sufferings endured by the Russian wounded defy description. Many battles in this campaign were fought in an uncultivated country, where the only shelter consisted in the mud huts of the peasantry, and the removal of the wounded was effected

transport with the army. These shelters, while containing suitable arrangements for the comfort of the patients, must be constructed of materials which will not facilitate the spread of disease germs, as did the mud of the huts into which the Russian troops were packed.

A large number of portable barracks and hospitals were shown in the Antwerp Exhibition, but most of these differed only in size from permanent buildings. In the latter, for instance, 37 to 40 cubic metres of air-space are allowed to each bed, while the circular stating the conditions of a competition inaugurated by the Empress-Dowager of Germany required only 12 cubic metres. It is evident that the results of such a restriction

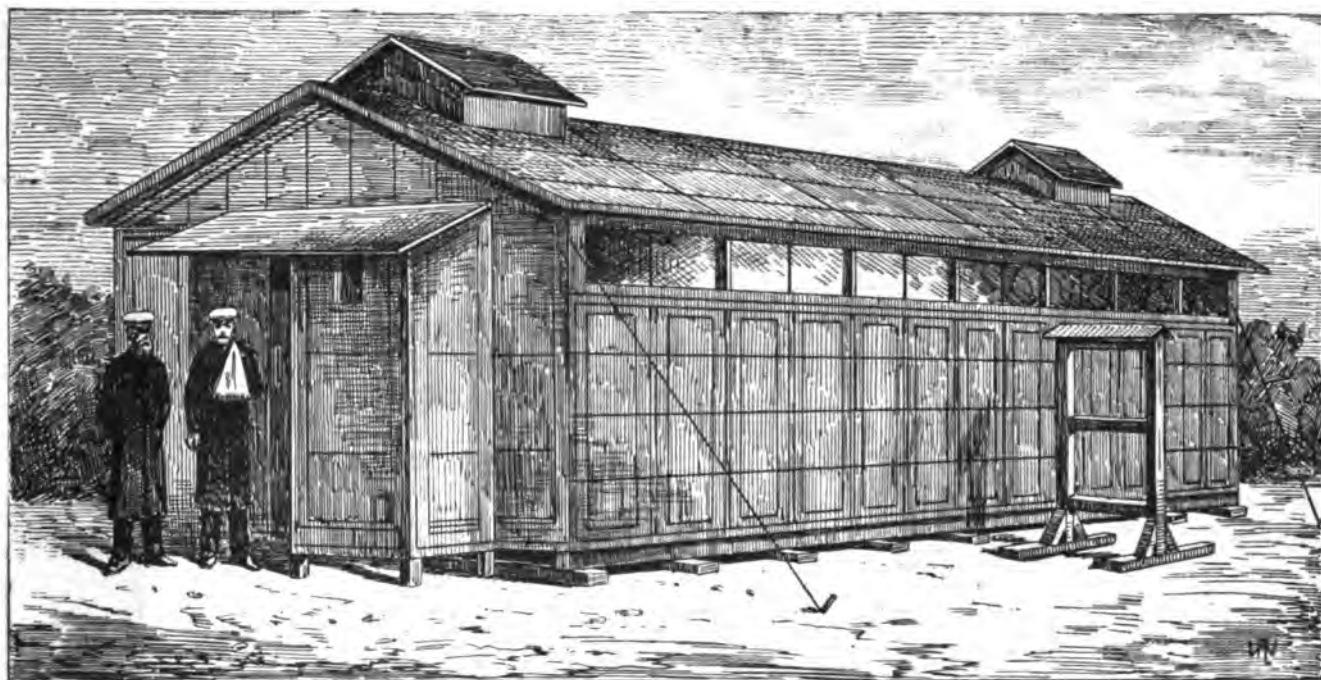


FIG. 1.

by long lines of wagons drawn by oxen. Michaelis, the chief surgeon of the Austrian staff, who has made an exhaustive study of the war, estimates that the original invading army of 120,000 men was completely exterminated by typhus fever. He attributes this excessive mortality to the fact that a great number of sick men were placed among the wounded and to the lack of sanitary precautions among the Russian troops.

The experiences of these two campaigns indicate the absolute necessity of providing portable shelters for

of space might be most prejudicial to the health of the wounded men. This evil cannot be obviated by an increase of air space, for the portable barracks would then become too heavy for transportation.

Dr. Zur Nieden has devoted considerable time and ingenuity to the perfection of a system by means of which he claims that healthy accommodation may be made compatible with lightness of construction. In the accompanying illustrations, Fig. 1 shows a closed building suitable for use in winter, when the air is not

easily polluted. When the weather grows warmer, he changes his house into a tent by the removal of the side walls (Fig. 2), and in summer the tent may be transformed into an open shelter as shown in Fig. 3.

to an iron frame; but those of the side walls are held by buttons or similar fastenings, so that they can be quickly removed when only tent walls are required. The floor, which is double, is supported by an iron frame.

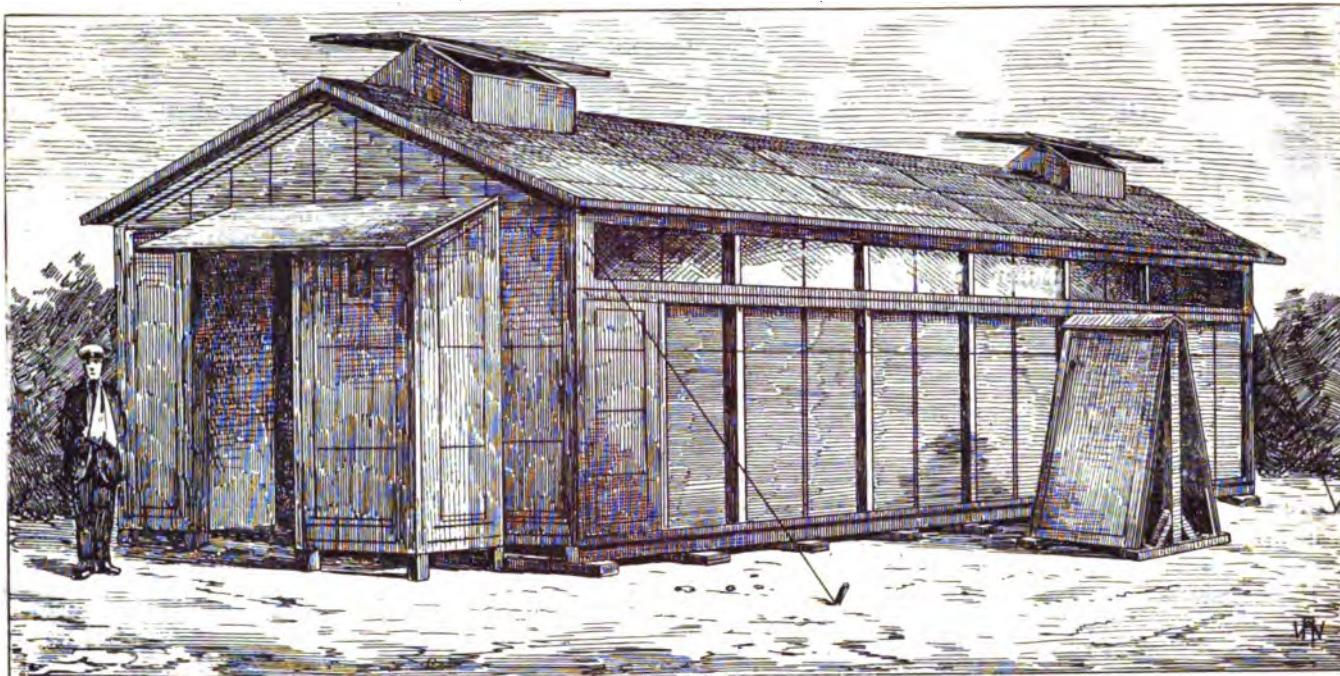


FIG. 2.

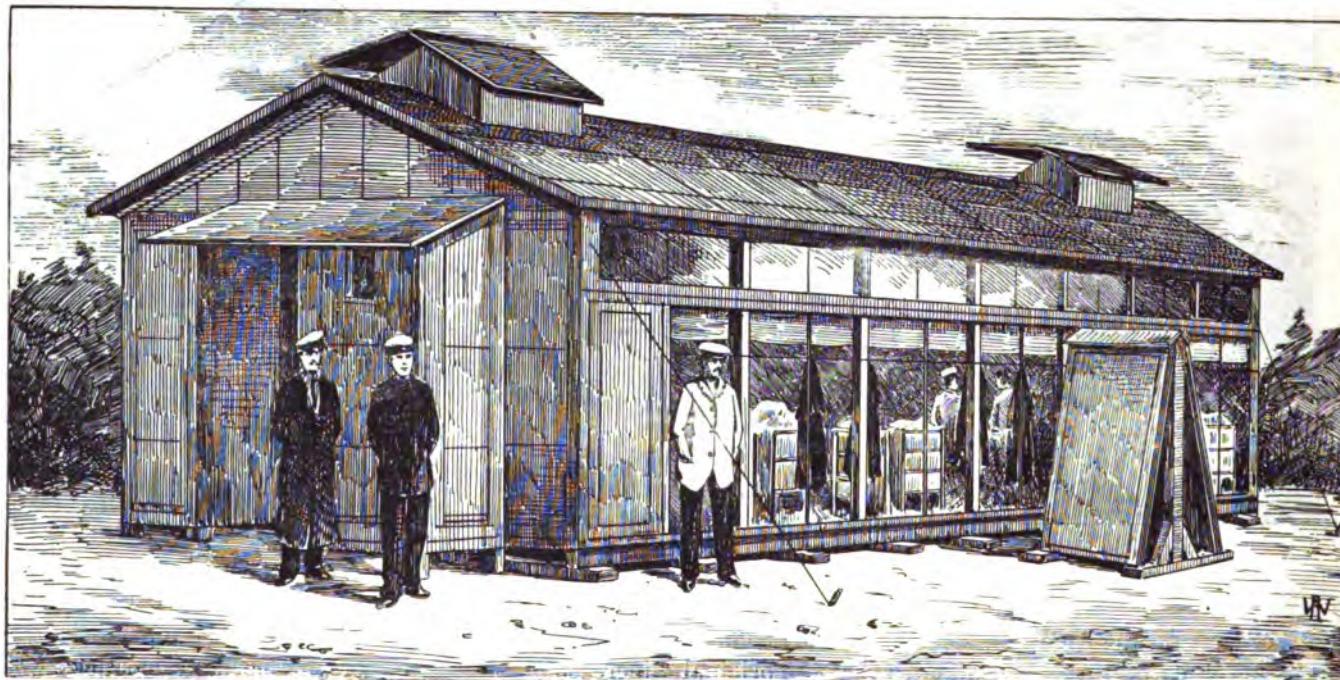


FIG. 3.

The walls and roof of the building are made in sections composed of frames covered on the inside with canvas and on the outside with roofing paper. Between the two covers, there is a layer of air which helps to keep in the heat. The sections of the gable are firmly secured

The ventilation of the room, which is of the greatest importance for the prevention of infection, is accomplished as follows. 1st, in winter (Fig. 1) the air is led out of the room by jacketted pipes. 2nd, when the weather is cool, the boards forming the top of the

ventilators are opened by means of cords, those on the lee side being raised, so that the wind acts to exhaust the air from the sick-room. 3rd, the exhaust becomes stronger if, as shown in Fig. 2, both boards are opened. 4th, in summer the sections of one side wall are taken out and placed on a stand, leaving only a canvas wall. 5th, when the weather becomes still warmer, the sections of both side walls may be removed. 6th, on extremely warm days, one or both sides of the tent may be raised. If only one side is raised and the other sprinkled, the evaporation will cool the air perceptibly. 7th, the disinfection of the floor, which is considered the chief seat of contagion, may be effected by raising the tent walls a short distance from the floor, so that a current

of air may pass from one side to the other over the floor without striking directly on the patients in the beds. With care, the floor may be disinfected in this way even in winter.

Two of the sections of each side wall are covered on the inside with boards instead of canvas, and when the frames are packed for transportation, these two sections form the top and bottom of the package, thus protecting the other frames, and obviating all need of cases. The sections of the roof and other walls are protected in the same way. The parts are of such sizes that they can be packed on an open railroad car without difficulty, and, if carried on wagons, three two-horse teams will be required for a barrack with 15 or 16 beds.

NAVAL AND MILITARY NOTES AND QUERIES.

THE PNEUMATIC MACHINERY ON THE "TERROR."—The signing of the contract by Secretary Whitney with the Pneumatic Gun Carriage and Power Company, of this city, for the application of the Company's system of pneumatic apparatus for elevating the turrets, steering and ventilating the double-turreted monitor *Terror*, which was announced last week, is a matter of sufficient importance to warrant further notice in our columns.

Should the pneumatic system, as it is now to be applied to the *Terror*, prove an entire success, as there is every reason to suppose it will, an improvement will be effected in the construction and operation of war-vessels which can hardly fail to be generally introduced in our future ships. It will be readily understood that not the least advantage from the undertaking as defined in the contract which is entered into is the marked increase in the comfort of the interior of an ironclad which must result from the liberation of cool compressed air in every part of the vessel which the officers and crew are required to inhabit. The perfect ventilation of war-ships may be regarded hereafter as not only possible but easily attainable in all cases. The merit of this system, as applied to the elevation and rotation of the turrets, and the manipulation of the steering gear consists in the easy and certain transmission of power by means of compressed air, a method the superiority of which to the use of steam pipes and engines requires no extended comment here. The plans proposed by the Company have been carefully considered at the Department, and duly approved by both the Construction and Ordnance Bureaus. A different system,

which has been devised by naval officers, will be applied to the *Miantonomoh*, and the two methods will thus have a thorough comparative trial when the vessels are completed.

The successful application of the Company's system of pneumatic steering apparatus has been already demonstrated to the Department by the experiments which have been made. The Department has been testing this pneumatic gear on the *Tallapoosa* for the past two years. The last report on the gear on the *Tallapoosa* is dated January 1st, 1888, Montevideo, Uruguay. Commander Dickens says: "In forwarding the report of the board on the pneumatic steering gear of this vessel, I wish to emphasize my approval of the principle of the gear, which is certainly far superior to the hand gear." The board, composed of Lieutenant Commanders George M. Totten and Barber, and Lieutenant Norton report as follows: "The members of the board have found no new conclusions. As stated in each report to the Bureau, they are unanimous in recognizing the utility of the pneumatic steering gear under proper conditions, and believe the principle of using compressed air instead of steam to be correct." The use of compressed air instead of steam and hand gear is rapidly growing in favour, and promises to revolutionize steam steering. The gear on the old Dominion Line steamer *Seneca*, built by the Pneumatic Steering Gear and Manufacturing Company of New York, has received the unqualified approval of the naval board which recommended the pneumatic gear to be used on the *Terror* in lieu of steam.—*Army and Navy Register*, Washington.

"THE HAVERSACK."

[THE EDITOR will be glad to receive contributions from naval, military, and volunteer officers. The subjects should bear on matters connected with the two Services, and be illustrated if possible by the author. To facilitate their reproduction, drawings ought to be executed with ink as black as possible upon Bristol boards. The Editor will furnish detailed instructions on application.]

[To prevent mistakes, authors are requested to sign their names and addresses at the conclusion of the MSS. which they contribute.]

[The attention of readers is called to the military problem submitted for solution in the present issue; it is the second of a series which will appear monthly. All details will be found on p. 394].

[A reply, by a French writer, to *Plus d'Angleterre* will appear in our next issue.]

It is worthy of remark that the three great men whose names are identified with the rise of Prussia and the genesis of the new German Empire disappeared from time at intervals of about a century. Frederic William, the "Great Elector," died in 1688; Frederic the Great, in 1786; and lately William the Emperor-King, now styled in Germany William the Great, has just departed from among us. The first-named was uncontestedly the founder of the modern greatness of Prussia, though the title of King was reserved for his son, Frederic I., perhaps the most unworthy representative of the Hohenzollern dynasty. Frederic the Great raised the Monarchy to the dignity of a Great Power; while the Emperor William converted it into the modern German Empire, all three realising their plans by force of arms. It is doubtful, however, whether the name of the venerable Monarch who has just expired will be identified with his epoch like those of his two predecessors. No imposing figure towered above the heads of Frederic William or of Frederic the Great. Their greatness was all their own, and there was no Bismarck to overshadow it. The Great Elector having died on the 29th April 1688, that excellent periodical the *Internationale Revue über die gesammten Armeen und Flotten*, in May, supplied us with a compendious estimate of the historical significance of his career. When he ascended the electoral throne of Brandenburg the State was in a nebulous condition. Its fragments were scattered broadcast from the Niemen to the Rhine; while between the ducal Prussia and Brandenburg Polish Prussia was thrust like a wedge including Dantzig and the mouths of the Vistula. Moreover, this embryo realm was jammed in between

the Empire and Sweden's continental possessions, its ruler's sympathies being divided between the two; for the Emperor was his suzerain and the official protector of German nationality, the Kings of Sweden were Protestants and consequently his co-religionists. For this reason his policy necessarily appeared double-faced: his allotted task was at once to guard the independence of Germany—the Holy Roman Empire as represented by Austria having become unequal to it—and to preserve the Protestant faith from extinction. France would willingly have assisted him, but her alliance had to be accepted with reserve, for he saw that in endeavouring to humble the House of Austria she was in reality striking at German independence. The Great Elector, like most of the Hohenzollerns, possessed considerable military talent. In 1675 by a rapid march from the banks of the Rhine he surprised the Swedish invaders of Brandenburg, inflicting on them a severe defeat at Fehrbellin. At Warsaw also, in 1656, he won a great victory over the Poles, but this was in conjunction with Charles X. of Sweden, who exercised the supreme command.

WE learn from the *Revue de Cavalerie* that the zealous advocate of Cossack warfare, Major-General Sukhotin, has once more been expounding his views in public. At a conference held under the auspices of the Russian Commander-in-Chief, and of the Grand Duke Nicholas, at the Staff Officers' Club at St. Petersburg, he declared for a further augmentation of the already numerous Russian cavalry, which now, as the reader is doubtless aware, consists almost exclusively of Dragoons (i.e. mounted infantry) and Cossacks. He is of opinion that three divisions of that arm should be amalgamated into a corps numbering 12,000 horses; that the squadrons of each regiment should be increased from six to ten, and that patrolling should be unceasingly carried on in the field by bodies of not less than twenty men. These conclusions were, it is said, unanimously approved by the distinguished audience who were present.

ALL'S well that ends well. Such is the conclusion of the Salisbury-Wolseley incident. The country has received timely warning of the unsatisfactory state of its defences, and the Adjutant-General has made amends for a constructive breach of etiquette. It is sometimes forgotten, however, that indiscreet revelations of our weakness really increase the chances of war with France, where the question would not be decided by a stable government, but by a dictator

borne to supreme power by a "wave of popular opinion." In such a contingency, were the French masses to get it into their heads that this country would fall an easy prey to their arms, they would jump at the opportunity of washing out the memories of Waterloo as eagerly as they would revenge the disgrace of Sedan. The chances of Boulanger attaining supreme power are nevertheless remote. The French have a citizen army now, and the soldiery look forward to returning to their hearths and homes in preference to buying promotion with the blood of their countrymen, like their Imperialist predecessors.

ADMIRAL BATSCHE, of the Imperial German Navy, in an article which appeared in the May number of *Unsere Zeit*, thus compares the respective strength of the British and French ironclad navies:—

	English, tons.	French, tons.
1st Class (ships of 10,000 tons and upwards)	140,810	49,070
2nd Class (ships of 9,000 tons and upwards)	79,740	79,338
3rd Class (8,000 to 8,000 tons)	112,410	56,000
Ships for coast defence	41,500	29,500

He does not consider, however, that our superiority in battle-ships would suffice for the blockade of the ports of Toulon, Brest, Lorient, Rochefort, and Cherbourg immediately after the declaration of hostilities. And yet it would be absolutely necessary to close them in order to secure our commerce from the depredations of the enemy's cruisers. He also points out that the French have a naval reserve numbering from 80,000 to 90,000 men, to which there is nothing comparable in point of numbers on this side of the Channel. Certainly, if this force be efficient, it will prove formidable for us. Still we possess a reserve in the seafaring population of these islands.

As was anticipated in our last issue, Admiral Krantz has laid before the French Chambers his project for the improvement of the military ports, Toulon, Brest, and Cherbourg. The total cost will amount to 62,010,000 francs. Brest, however, will still remain somewhat inconvenient for the movements of large ironclads, the space available being so restricted, says the *Journal de la Marine*, that the *Admiral Baudin* was near breaking her screw lately against the cable of a ship laying at anchor. This petty economy of three million francs effected on the original estimate seems ill-advised to our contemporary.

Now that the Transcaspian Railway has been completed as far as Samarcand, that city can be reached from St. Petersburg in little more than seven days. The line has been constructed with marvellous rapidity.

Commenced in July 1885, it reached Merv in the course of a twelvemonth, and on the 30th November in the same year the first locomotive steamed into Charjui, on the Oxus. On the 18th January last year, the wooden bridge across the Oxus, which is over 2,000 yards in length, was completed, and on the 27th May last the inauguration of the station of Samarcand was celebrated. The nearest station to Herat is Dushak, distant about 400 miles from the Caspian. From this point the Afghan-Indian Railway will branch off and, it is asserted, soon reach Kandahar. The main line will also be prolonged as far as Tashkend.

In these days of eager competition for employment, when the various professions are overstocked with practitioners, a scheme like the "Methuen Settlement" cannot fail to attract public attention. It presents a fair prospect of a successful career in life to that numerous class of young gentlemen who, starting with a moderate capital, feel that it would be thrown away were they to compete in the vortex of English life with rivals better equipped for the struggle in a pecuniary sense of the word. By the payment of £600 to the promoters of the "Methuen Settlement," which is under the distinguished patronage of Colonel Methuen, C.B., and Lord Elibank, R.N., those who desire to seek their fortunes as citizens of our Colonial Empire can become landed proprietors in the pleasant district of Bechuanaland, which offers advantages and facilities for settlement which hitherto have rarely fallen to the lot of our adventurous countrymen. Its climate is good, the land being many thousand feet above the level of the sea; labour is cheap, the natives being a docile and industrious race; and the soil is represented as naturally fertile in pasture, while with artificial irrigation it would produce a crop of maize and another of wheat annually. The intending colonist is required to pay down £200 in London, in return for which he receives a first-class passage to Cape Town, a warrant for rail to Kimberley, and conveyance by ox-waggon to his destination; also the requisite saddlery and a gun and rifle. On arrival in Bechuanaland he gets a title deed from Government, securing him a farm of 3,000 acres, a homestead, cattle, sheep, and two horses, with the necessary agricultural implements. The settlement is situated in latitude 26° south, and due west of the Transvaal Republic. *

THE *Illustrazione Militare Italiana* relates that the Queen of England, at the conclusion of her visit to Florence, presented her portrait and autograph to the Italian 94th Regiment, in recognition of the services of their band during the stay at the Villa Palmieri. The band-master, Signor Ricci, at the same time received a valuable ring from Her Majesty engraved with the royal initials.

REVIEWS.

La Puissance Maritime de l'Angleterre. Par P. C., Officier de l'Armée Française. (Paris : Berger, Levrault et Cie., 1887.)

The quantity of books which issue from the press in France on the subject of the naval resources and prospects of Great Britain prove that our supremacy on the ocean is as much an object of envy to our restless neighbours as the military strength and efficiency of Germany on land. This, we fear, must ever be the case, owing to the turbulent element among them, which acts as a ferment on the mass of the population, which is peacefully disposed. In spite of the material prosperity which a rich soil and a genial climate confers, the French cannot long sit still under a sense of inferiority to nations in their vicinity. There must be a fresh trial of strength till their vanity be satisfied or a fresh catastrophe plunge the land once more into chaos. Admitting, therefore, as common prudence bids us, that another struggle with France for the command of the seas is as likely as a fresh conflict on the banks of the Rhine, let us try to examine the prospect before us.

The writer, it is true, dissuades his countrymen from provoking the trial. He thinks it advisable to deal with one adversary at a time, while sensibly reminding them that, if they choose to engage in a war with England, it must be fought out with squadrons of ironclads on the high seas or not at all. Preying upon her commerce with whatever success will never bring "perfide Albion" to her knees; each valuable capture will but act as an incentive to further effort. Nor are the prospects of effecting a landing on these shores deemed more promising; this kind of enterprise the writer evidently considers *passé de mode*. Besides, an invasion must be executed in one of two ways: if the fleet and transports be assembled in a single port, their presence must become known, and they would be blockaded or forced to fight an action with a fleet which is of superior strength. If, on the other hand, the hostile armament were to depart in echelons from various points of the French coast, what precise calculation, what favourable weather and also good fortune would be required to ensure their concentration on any given section of ours, if, indeed, they escaped destruction in detail by the Channel Fleet. Again, it is here stated that very few French ports on the Channel have sufficient depth of water to admit of first-class ironclads entering them; not till Antwerp is won can France hold out the effective menace of attacking these islands; for Cherbourg is unsuitable and Brest too distant. But Antwerp would directly threaten our eastern shores.

The author thus concludes: England is still the first of Maritime Powers, but would be inferior to a coalition of which France formed a part. Admiral Simon however is of opinion that even in this case unity of command and interests would go far to compensate for inferiority in numbers. The French navy is the second in Europe, its strength to that of England being in the proportion of two to three; Italy has an ironclad fleet swifter and more powerfully armed than the ships of England and France. It is admitted that the last country possesses but four battle-ships which are really of the latest type. These are the *Admiral Duperré*, the *Dérastation*, the *Courbet*, and the *Redoutable*. The French cruisers are also inferior to those of the type of the *Leander* and the *Mersey*, while their facilities for coaling are incompara-

bly inferior to our own. We learn from these pages many interesting facts about ourselves which we did not know before. For example, we are said to be intriguing in Morocco for the annexation of Tangier; that town during the last few years has been armed and fortified, it appears, by means of funds supplied by the British Government, while British officers, not in the pay of the Sultan, have been drilling his troops! The credulity of our friends across the Channel in all that regards this country really seems inexhaustible.

Rome et Berlin. Opérations sur les côtes de la Méditerranée et de la Baltique au Printemps de 1888. Par CHARLES ROSE, Ancien Officier de Marine. (Paris : Berger, Levrault et Cie., 1888.)

When an Englishman writes of imaginary conflicts he usually takes a desponding view of the situation, representing his country as crushed under the armed heel of an invader. A Frenchman however will usually indulge in delicious visions of glory and conquest, luxuriating in fancied triumphs as if they were already accomplished facts.

The volume before us may be regarded as complementary to "Down with England." Great Britain having been disposed of, so far as pen and ink could effect its humiliation, it remained to ruin the other two Powers who had dared to contest the supremacy of France even in their thoughts. Thus, war having been declared by Germany, the Italian Government once more throws in its lot with its former ally, but is promptly placed *hors de combat* by the French Republic in this wise. On the first declaration of hostilities, a French squadron leaves Toulon and, suddenly appearing in the Gulf of Spezzia, demolishes the squadron appointed to defend the arsenal. So completely are the Italian ironclads taken unawares that their very fires are not kindled; two of them are incontinently sent to the bottom, while the largest of the three, the *Duilio*, though kept afloat by her water-tight compartments, is compelled to run ashore for safety. Next, the French visit the Bay of Naples and bombard Castellamare. Here, however, we are glad to observe that at least one ironclad, the *Lepanto*, has her steam up to meet them. Another, however, the *Italia*, not having been so circumspect, is towed away by her consort, fortunately unmolested by the enemy, who would certainly have caught them had they tried. The station of Maddalena in the Straits of Bonifacio is next swooped upon by the destroying French, who afterwards put in at Toulon to embark 50,000 troops for a descent on Rome.

We are not surprised that this expedition fails. Fifty thousand men, even though they be French troops, disembarked at Civita Vecchia and moving on Rome with their left flank and communications exposed to the blows of an enemy vastly superior in numbers, would eventually be thrust with disaster from a false position. A more promising field of action is found at Savona, whence advancing into Montferrat, the expedition acts with decisive effect on the rear of the Italian army which is defending the passes of the Alps. On the 1st of June another battle of Novi is fought, this time a victory for France, whereupon the Italian Government, discerning the fallacy of its Bismarckian proclivities, sue for an armistice which is incontinently granted.

Meantime, while obstinately defending her newly-fortified frontier against an avalanche of German invaders, France has made a descent at the mouth of the Oder. Denmark, mindful of the unfulfilled clause of the Treaty of Prague, joins hands with her ancient ally. Swinemunde having been captured, the Oder lies open to the combined squadrons; their army is disembarked near the mouth of the river, and in spite of the opposition of the German forces the city of Stettin falls into the hands of the invaders. Now comes the grand climax from the civilized point of view. Russia sees her opportunity and intervenes. By the promise of Transylvania she lures Roumania into connivance with an invasion of Bulgaria; Austria and Germany are simultaneously attacked, and, to the high delight of all Paris, a city which we know to be the centre of the polite world, the yell of the Cossack is heard in the neighbourhood of Berlin. The book is very graphic and entertaining; and we believe that it is not meant to be anything more.

Aid to Russian Composition. By IVAN NESTOR-SCHNURMANN. (London: W. H. Allen & Co., 1888.)

Those officers who intend to compete for the gratuity of £200 offered by Government for proficiency as interpreters in the Russian language cannot do better than provide themselves with a copy of this little work. Its special object is to assist the student in the acquisition of a correct epistolary style, and to accustom him to decipher manuscript in that tongue. It is ancillary to the "Manual" by the same author, in which the grammatical structure of Russian is explained, and should be used in conjunction with it, so that practice may walk hand in hand with theory in accordance with the latest mode of linguistic instruction. In order to familiarize us with the official style of correspondence, Sir Edward Thornton's despatches to M. de Giers on the subject of the Afghan frontier are appended side by side with the Russian version of them. Further on we find specimens of Russian manuscript of every degree of difficulty to puzzle the reader and exercise his powers in perusing them. This is a feature quite unique in works of this class which invests the book with a peculiar value of its own.

Hand-book for the Stars. By the late H. W. JEANS, F.R.A.S. Revised by Staff-Commander W. R. MARTIN, R.N. (London: Longmans & Co., 1888.)

The editor of this useful manual was induced to undertake his task by the circumstance that observations of the starry heavens are of increasing utility in the navigation of the swift cruisers whose powers so often form the subject of comment at the present moment. Whether we possess them in sufficient numbers is perhaps an open question; at all events it is desirable that those we have should be able to pursue their course in safety by night and day. This little volume will therefore be a welcome addition to the naval officer's travelling library. Even to those whose avocations do not take them down to the sea in ships it may not be devoid of interest. Many people like to know how to trace out and distinguish the "flowers of the sky," as some astronomer in an unwonted burst of poetic fervour has designated the heavenly bodies. The three

maps which are appended to this work, together with rules laid down for exploring the firmament, will enable such persons to gratify their taste.

The Leisures of Mars (Dasugi Marsa). (Kazan: 1st July 1887.)

This is the first issue of a periodical, the scope of which is entirely new, offering to Russian officers a vehicle for the publication of their literary efforts. There can be little doubt that the enterprise is largely subsidized from private or governmental sources, both type and paper being far above the average of Russian publications, while the scale of remuneration to contributors is liberal.

Historical and military subjects, poetry and the drama, novellettes, music and drawing, find a refuge from oblivion in these pages, all of them being the work of Russian officers. Commencing with a sketch of the career of General Weide, a coadjutor of Peter the Great, the present number furnishes specimens of skill in these literary departments, with a spirited photograph "Caught up," which represents two cartloads of peasants racing in their "troikas," i.e. three horses abreast; and terminates with a polka, a military quick march, and a *romanza* of at least average merit. A few *memorabilia* of Suvoroff are added as suitable to the present crisis, "when all true sons of Russia are, in the name of religion, the Emperor, and Fatherland, preparing for a just conflict with their treacherous enemies." This passage is significant enough and shows how the Russian soldiery are "enthused" by word of command when circumstances seem to require it. Marshal Rumantoff, we are told, used to tell them: "Near to the enemy, nearer to glory," and his commentator in the *Leisures of Mars*, adds, "Who would not now wish to be nearer to the enemy, who is longing to swallow up our beloved Fatherland?" But all this is good enough for those to whom it is addressed, and who no doubt swallow it eagerly. The magazine is to appear every six months.

A Story of Active Service in Foreign Lands. By Surgeon-General A. GRAHAM YOUNG. (Edinburgh and London: William Blackwood & Sons.)

The author of *Crimean Cracks* gives in this work the record of his experiences in South Africa, India, and China, between the Crimean war and his retirement in 1882. The book consists, as the author acknowledges in a short prefatory note, of extracts from letters sent home from foreign lands. The story opens on the 9th of November 1856 when, to quote the author, "Dawn shed its shimmering light on the deck of the East India man, *Wanata*, as she left Gravesend for South Africa." Surgeon-General Young refrains from setting forth in detail the record of his voyage between "the mighty Continents of Africa and America," and contents himself with noting the "occasional appearance of some of the common marvels of the sea, such as flying fish, porpoises, nautili, and the beautifully-variegated mass of algae of the Sargasso sea." The only portion of the work which possesses some public interest is that which deals with the share of the author in the China campaign of 1860, and his narrative, as that of an eye-witness, is worth perusal. The rest of the book consists chiefly of trivial personal reminiscences.

SUMMARY OF ARTICLES IN FOREIGN SERVICE MAGAZINES.

REVUE DU CERCLE MILITAIRE—ARMÉES DE TERRE ET DE MER. (Paris : 87, Rue de la Bellechasse.) April 22nd, 29th, May 6th, 15th, 1888.

The Training of the Troop-Horse—Experiments in Germany and the United States with the Pneumatic Dynamite Gun—The Report of General Budisteano on the Manœuvres of the 12th French *Corps d'Armée*—Field-Marshal von Moltke.

JOURNAL DE LA MARINE. Le Yacht. (Paris : 50, Rue Saint Lazare.) April 21st, 28th, May 5th, 12th, 19th, 1888.

The Use of Carrier Pigeons at Sea—Study on Warships—The French Channel Fleet—Yarrow Torpedo-Vedettes—The Launch of the *Cecille*—The English Troopship *Serapis*.

REVUE MILITAIRE DE L'ÉTRANGER. (Paris : L. Baudoin et Cie., 30, Rue et l'assage Dauphine.) April 30th, 1888.

The Position of the Officer in Austria-Hungary—The Staffs of the Russian Army (*continued*)—The Military Railway Service of Italy (*continued*).

JOURNAL DES SCIENCES MILITAIRES. Revue Militaire Française. (Paris : Imprimerie et Librairie Militaires, L. Baudoin et Cie., 30, Rue et Passage Dauphine.) April 1888.

The (French) Cavalry in the Grand Manœuvres of 1887—The Defence of the Frontiers (*concluded*)—Soul's Promotion Law—The Fire Tactics of the French Infantry—Souvenirs of the Tonquin Campaign.

REVUE MARITIME ET COLONIALE. (Paris : L. Baudoin et Cie., 30, Rue et Passage Dauphine.) April 1888.

The Naval and Military Estimates and the Question of National Defence in England—Historical Studies on the French Navy—A Voyage to Borneo—The Use of 30-cm Mortars for Coast Defence.

REVUE D'ARTILLERIE. (Paris : Berger-Levrault et Cie, 5, Rue des Beaux Arts.) May 1888.

The Mechanical Theory of the Lemoine Compressor for Field-gun Carriages—The Artillery Horse—Experiments on the Interior Strain in Steel—The Spanish Siege Artillery *Matiériel*—The Le Boulengé Chronograph.

REVUE DU GENIE MILITAIRE. (Paris : Berger Levraud et Cie, 5, Rue des Beaux Arts.) March and April 1888.

The Barrack Accommodation of European Troops in British India—River Navigation as a Means of Transport in War—The Engineer Service in Tonquin (*con-*

tinued)—General Meusnier's Ideas on Aërial Navigation—The Meuse Fortifications in Belgium.

JAHRBUECHER FUER DIE DEUTSCHE ARMEE UND MARINE. (Berlin : Richard Wilhelmi.) May 1888.

The French Army in the Year 1813 (*continued*)—Lehwaldt and Apraxin in East Prussia, 1757—Field-Artillery Reviews—The Reorganization of the Dutch Army—The Strategy of Frederick the Great.

NEUE MILITAERISCHE BLAETTER. (Potsdam : Villa Schwanenbrücke, Post : Klein Glienike.) May 1888.

Remarks on the Tactical Instruction of the Russian Infantry—The Causes of the Servian Defeats in 1885, III.—The Use of Iron and Steel in Fortification, V.—The Portable Micro Telephone for Military Purposes—Scharnhorst—Military Ballooning—How Colberg was preserved from Bombardment in the War of 1870—The French Infantry and the Act of 25th July 1887.

MITTHEILUNGEN UEBER GEGENSTAENDE DES ARTILLERIE-UND GENIE-WESENS. (Wien : Druck und Commissionsverlag von R. von Waldheim.) No. IV. 1888.

Mitrailleuses and Quick-Firing Guns—Proposed New Fort, satisfying Modern Requirements—The Sugg Gas Regulator—The Mortar-Sarajevo Railway—Military Pigeon Stations in Russia.

MITTHEILUNGEN AUS DEM GEBIETE DES SEEWESENS. (Pola : Druck und Commissionsverlag von Carl Gerold's Sohn in Wien.) No. III. and IV. 1888.

Blockades : their Importance and Enforcement—Episodes from Naval History II.—The Physical Peculiarities of the Black and Azof Seas—A Proposed Unsinkable Ship—The History of Life-Saving at Sea—The German Naval Estimates—The French and Italian Fleets—The Dynamite Gun—An Electrical Boat for the French Navy—The Mexican Navy.

RIVISTA MILITARE ITALIANA. (Roma : Voghera Carlo, Via Nazionale.) April 1888.

Studies at the War School, 1887—The Military Operations in Northern Africa (July 1887 to March 1888)—The New French War-ships—The Bulgarian Army—The Military Power of the German Empire—The Spanish Army.

RIVISTA MARITTIMA. (Roma : Tipografia del Senato.) April 1888.

Italian Sailors in the Arabian and Turkish Services—Submarine Electric Lighting—The Italian Naval Estimates (*continued*)—The English Navy—The Corrosion of Iron and Steel Ships—War-ships for the U.S. Navy.

INTERNATIONALE REVUE UEBER DIE GESAMMTEN ARMEEN UND FLOTTERN. (Cassel : Verlag von Theodor Fischer.) May 1888.

Frederick William, the Great Elector, 29th April 1688-1888—Russian Oriental Politics—Smokeless Powder—The Austrian Naval Estimates—Italy as opposed to a French Invasion—The Italian Red Sea Expedition, III.—The Railway Bridge over the Amu Daria—The Chinese Army.

REVUE MILITAIRE BELGE. (Bruxelles : Librairie Militaire C. Muquardt.) April 1888.

Napoleon and Carnot ; Episode in the Military History of Antwerp—Modern Guns and Ammunition—Automatic Syphon for Hunting-Reservoirs—Dueret's Apparatus for the Mechanical and Automatic Registry of Signals transmitted by Telegraphs and Optical Projectors—Reviews of Periodical Publications—Reviews of Books—Military Chronicle.

AT THE PLAY.

The GLOBE has passed out of the hands of Mr. Wilson Barrett, being indeed obviously unsuited to the melodramas and other elaborately mounted plays with which his name is associated, and has been opened under the joint management of Mr. Edgar Bruce and Miss Edith Woodworth for the production of "Bootles' Baby."

The play has been written by Mr. Hugh Moss, and is on the whole skilfully managed, for the story does not lend itself easily to dramatic treatment. It would have been much better, however, if it had ended with the third act, in which the *dénouement* is practically brought about ; the difficulty was no doubt to arrange the marriage of Mignon's mother immediately on the death of the father, but this is scarcely excuse enough for a whole act of padding. The acting is very even, and the military details most accurately carried out, so that the whole representation is smooth, and nothing jars. Mr. Sugden, who has the most difficult part, is perhaps the most successful, and manages to be sufficiently villainous without being obviously and unnaturally so. Mr. Maurice's Bootles is natural and easy, and Mr. Garthorne's Captain Lucy very fair, though rather too suggestive of Mr. Kendal in "Impulse." Mr. Collette as Saunders is excellent, and makes the most of his many opportunities, but one gets a little tired of his catch-word before the end of the play. Little Miss Terry acts with much less affectation than is usual with children, and if she cannot make her voice sound natural, that feat has probably never been performed by any child on the stage—the nearest approach we ever remember being in the performance of little Nelly Smith in the "Fast Family" some years ago. Miss Woodworth has, in Helen Grace, a part with no light and shade, and but little variety, but she acts it with commendable moderation, and often with real pathos. How the gallery can stand such pieces as "Vandyke Brown," with which the evening opens, or how capable actors like Mr. Collette can be got to take part in them, is one of those mysteries that only managers can solve. Happily the infirmities of old age seem to be creeping over such farces.

At the GAETY Mr. Augustin Daly's company began with a flimsy unnatural uninteresting piece called "the Railroad of Love," which might just as well have been called "The Milk-Walk of Love," or anything else, and

it says wonders for the acting of this particularly clever company, that they should have been able to make its four acts really amusing. The burden fell most heavily on Mr. Drew and Miss Rehan as the young lovers, and Mr. Lewis and Mrs. Gilbert as the old ones, and could not have fallen on more capable shoulders ; but all the same one cannot make bricks without straw, and they have done wisely in removing the "Railroad of Love" from the boards. It has been succeeded by "The Taming of the Shrew," in which Mr. Daly has to a great extent restored the original text (including the Induction), and reduced the farcical incidents that have been grafted on it since the time of Garrick. Mr. Drew is the Petruchio, and Miss Ada Rehan the Katharine, the latter giving an impressive and original rendering. Mr. Lewis takes Grumio, and Mrs. Gilbert appears in the small part of Curtis, made into a housekeeper instead of a manservant—as is often done.

At TERRY'S the afternoons are occupied with the true and authorized edition of "Little Lord Fauntleroy" and the world of authors should be grateful to Mrs. Burnett for the way in which she took up the cudgels for her rights, and incidentally for theirs too. This version of the story is far more close to the original in every way than that produced at the Prince of Wales', and is much better acted too ; Mr. Alfred Bishop's get-up as the old earl being in close imitation of the illustrations in the book, and Miss Vera Beringer being much nearer to the age of the child she represents than Miss Annie Hughes. Miss Winifred Emery, Miss Fanny Brough, and Mr. Brandon Thomas are also in the cast.

At the LYCEUM, "Faust" has been withdrawn in favour of "The Amber Heart" with Miss Terry in the chief part and "Robert Macaire" with Mr. Irving in the title rôle. The plays form a good contrast, but perhaps hardly provide an entertainment up to the usual Lyceum level, though Mr. Irving's rendering of the tattered rascal has much fine humour. Mr. Weedon Grossmith acts Robert Macaire's timid companion, but does not make much mark.

At the OLYMPIC a dramatic version of "Mr. Barnes of New York" has been produced by Mr. Yorke Stephens. The play is by Mr. Rutland Barrington, and carries out the lines of the story very effectively. The cast in-

cludes Mr. Willard, Mr. Yorke Stephens, and Mrs. Billington.

The PRINCESS's has welcomed back Mr. Wilson Barrett, though only temporarily and not as lessee or manager. The play is called "Ben-my-Chree," and is founded on Mr. Hall Caine's Manx story, "The Deemster." Though a melodrama of the recognized type it contains some fresh elements from the introduction of Manx customs, and gives an opportunity to Mr. Wilson Barrett of making a more decided mark than he has done in any of his late plays. Miss Eastlake gets rather tiresome, and Mr. George Barrett has not much of a part.

The STRAND, while keeping Mr. Burnand's amusing burlesque "Airey Annie," on the bills, has produced yet another farcical comedy, called "His Wives." The title is quite enough to indicate the plot, and, indeed, the tissue of absurdities is only relieved by Mr. W. Edouin's really clever rendering of a mendacious clerk.

Among the Matinées which now form a part of each weekly programme was one organized by Mr. E. Stafford at the PRINCESS's for the production of a new drama by Mr. J. W. Furrell, entitled "Midnight, or the Wood-Carver of Bruges." The piece shows evidence of careful writing, has some good situations and some original ideas; but the piecing together is not skilful, the scenes are too many and too short, and there are passages here and there dangerously suggestive of old favourites—Shylock and Lady Macbeth for instance. Whether the prominent incident of a lady entirely unskilled in carving executing an exquisite bit of work in her sleep is possible or not, we must leave to specialists to decide; but we must own to much scepticism on the point, and the plot does not depend on it. Mr Furrell did not have much assistance from his performers who, with the exception of Mr. and Mrs. Leonard Outram, were far below mediocrity.

Pieces that have been running for some time.

ADELPHI.—"The Bells of Haslemere," melodrama, Mr. W. Terriss, Mr. C. Cartright, Mr. Garden, Miss Mary Rorke, Miss Clara Jecks, &c.; and a farce.

AVENUE.—"The Old Guard," comic opera, Mr. Arthur Roberts, Mr. John Dallas, Mr. Alec. Marsh, Miss Violet Cameron, Miss Annie Halford, Mdlle. Henriette Polak, Miss Phyllis Broughton; and "A Warm Reception."

COMEDY.—"The Arabian Nights," three-act farce, Mr. C. H. Hawtrey, Mr. W. S. Penley, Miss Lottie Venne,

Miss Cissy Grahame, Miss Cudmore, &c.; and "Sunset," Mr. W. Draycott, Miss Caroline Elton, &c.

COVENT GARDEN.—Italian Opera under the management of Mr. Augustus Harris.

CRITERION.—"David Garrick," comedy, Mr. Charles Wyndham, Mr. David James, Mr. G. Giddens, Mr. S. Brough, Mr. Blakeley, Miss Mary Moore, &c.; and "Why Women Weep."

GERMAN REEDS' ENTERTAINMENT, "Wanted an Heir," musical piece, Mr. Alfred Reed, Mr. Ernest Laris, Mr. Walter Brown, Miss Fanny Holland, Miss Kate Tully; and "Mossoo in London," Mr. Corney Grain.

HAYMARKET, "The Pompadour," drama, Mr. Beerbohm Tree, Mr. Brookfield, Mr. H. Ashley, Mr. Royce Carleton, Mr. Allan, Mrs. Beerbohm Tree, Miss Rose Leclercq, Miss Janet Achurch, Miss Le Thiere, &c.; and "A Compromising Case."

OPERA COMIQUE.—"Ariane," drama, Mr. Henry Neville, Mons Marius, Mr. Leonard Boyne, Mrs. Bernard Beere, Miss Laura Linden, &c.; and "Love and Politics."

PRINCE OF WALES'.—"Dorothy," comic opera, Mr. Ben Davies, Mr. Furneaux Cook, Mr. Arthur Williams, Mr. Hayden Coffin, Miss M. Tempest, Miss Florence Perry, Miss H. Coveney, Miss Amy Augarde, &c.; and "Warranted Burglar Proof."

SAVOY.—"The Pirates of Penzance," comic opera, Mr. G. Grossmith, Mr. R. Barrington, Mr. R. Temple, Mr. J. G. Robertson, Miss Ulmar, Miss Jessie Bond, Miss R. Brandram, &c.; and "Mrs. Jarramie's Genie."

ST. JAMES'S. — "The Ironmaster," drama, Mr. Kendal, Mr. Macintosh, Mr. Waring, Mr. Waller, Mr. Kemble, Mrs. Kendal, Miss Fanny Brough, Miss Rose Murray, Mrs. Gaston Murray, &c.

TERRY'S.—"Sweet Lavender," comedy, Mr. E. Terry, Mr. Alfred Bishop, Mr. Brandon Thomas, Mr. Bernard Gould, Mr. F. Kerr, Miss Norreys, Miss Maude Millett, Miss Carlotta Addison, Miss Victor, &c.; and "Law and Physic."

TOOLE'S.—"The Don," farcical comedy, Mr. J. L. Toole, Mr. J. Billington, Mr. L. Cautley, Miss Kate Phillips, Miss Marie Linden, Miss Violet Vanburgh, &c.; and "A Red Rag."

VAUDEVILLE.—"Joseph's Sweetheart," comedy, Mr. T. Thorne, Mr. W. Rignold, Mr. C. Maude, Mr. H. B. Conway, Miss Kate Rorke, Miss Vane, Miss E. Johnstone, Miss Gladys Homfrey, &c.



77

THE NEW YORK PUBLIC LIBRARY
REFERENCE DEPARTMENT

This book is under no circumstances to be taken from the Building